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of Transportation
**National Highway
Traffic Safety
Administration**

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Test Report

August 1985

Side Impact Protection in Production Vehicles

MDB-to-Car Side Impact Test of a 26° Crabbed Moving Deformable Barrier to a 1983 Nissan Sentra at 33.4 mph

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16. Abstract

This test report documents one of a series of ten crash tests to evaluate side impact protection in various vehicle models. Testing was conducted on a 1983 Nissan Sentra 2-door Sedan at the TRCO Crash Test Facility, East Liberty, Ohio. The test vehicle was impacted on the left side by a moving deformable barrier, crabbed to 26°, at 33.4 mph. The test was a simulation of a 90° intersection collision with the striking vehicle travelling at 30 mph and the struck vehicle travelling at 15 mph. Occupant responses of two side impact dummies were measured. One dummy was located in the driver's designated seating position and one was located in the left rear seating position. The test date was July 19, 1985 and the ambient temperature was 84°F.

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SECTION 1.0

PURPOSE AND INTRODUCTION

PURPOSE

The main purpose of this test was to evaluate side impact protection in one of a fleet of 2-door and 4-door vehicles. The vehicle was tested using conditions not currently contained in a Federal Motor Vehicle Safety Standard.

INTRODUCTION

A stationary 1983 Nissan Sentra 2-door sedan was impacted on the left side by a Moving Deformable Barrier (MDB) on July 19, 1985. The test was to simulate an intersection collision with the striking vehicle travelling at 30 mph and the struck vehicle travelling at 15 mph. The orientation angle of the striking vehicle was 90° counterclockwise with respect to the longitudinal axis of the struck vehicle. The leading edge of contact was to be 37 inches forward of the vehicle center of gravity which is defined by accident investigation to be the midpoint of the wheelbase.

To simulate this collision, the MDB was to be towed into the stationary Nissan Sentra at 33.5 mph with the MDB's wheels crabbed clockwise to 26°. The actual test speed was 33.4 mph and the actual leading edge of contact was 38.0 inches forward of the midpoint of the Nissan Sentra's wheelbase.

The vehicle was a baseline model with no structural modification. The driver door and left rear door were unpadded.

Section 2 contains General Test and Vehicle Parameter Data. Section 3 contains data required by R & D. Appendix A contains pre-test and post-test vehicle and dummy photographs. Appendix B contains Data Plots. Appendix C contains Dummy Certification Data.

SECTION 2.0
GENERAL TEST AND VEHICLE PARAMETER DATA

The following data sheets describe the General Test and Vehicle Parameter Data.

TEST VEHICLE INFORMATION

VEHICLE MANUFACTURER: Nissan Motor Company, Ltd.

MAKE/MODEL: Nissan Sentra VIN: JN1PB12S4DU51545

BODY STYLE: 2-Door Sedan MODEL YEAR: 1983

NHTSA NO.: R & D COLOR: Silver

ENGINE DATA: TYPE: Transverse CYLINDERS: 4 DISPLACEMENT 1597 cc

TRANSMISSION DATA: 5 Speed Manual

DATE VEHICLE RECEIVED: 7/2/85 ODOMETER READING: 48352

DEALER'S NAME AND ADDRESS: Bobby Layman Chevrolet
Columbus, Ohio

ACCESSORIES:

POWER STEERING	No	AUTOMATIC TRANSMISSION	No
POWER BRAKES	No	AUTOMATIC SPEED CONTROL	No
POWER SEATS	No	TILTING STEERING WHEEL	No
POWER WINDOWS	No	TELESCOPING STEERING WHEEL	No
TINTED GLASS	No	AIR CONDITIONING	No
RADIO	Yes	ANTI-SKID BRAKE	No
CLOCK	No	REAR WINDOW DEFROSTER	Yes
OTHER			

REMARKS:

1. IS THE VEHICLE STOCK THROUGHOUT? Yes
2. DOES VEHICLE SHOW EVIDENCE OF PRIOR ACCIDENT HISTORY? No
3. DOES VEHICLE SHOW ANY SIGNIFICANT CORROSION? No
4. CONDITION OF THE FRONT/REAR BUMPER AND FRAME: Good

DATA FROM CERTIFICATION LABEL ON LEFT DOOR FACE OR "B" POST:

VEHICLE MANUFACTURED BY: Nissan Motor Company, Ltd.

DATE OF MANUFACTURE: 3/83

GVWR: 2875 LBS.,

GAWR: FRONT 1420 LBS., REAR 1465 LBS.

VEHICLE TIRE DATA

RECOMMENDED COLD TIRE PRESSURE: FRONT 26 psi; REAR 26 psi

TIRES ON VEHICLE (MFGR. & LINE, SIZE): Dunlop SP4-155SR13

BIAS PLY, BELTED, OR RADIAL: Steel Belted Radial

PLY RATING: 3

IS SPARE TIRE "SPACE SAVER"? Yes

IS SPARE TIRE STANDARD EQUIPMENT? Yes

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (WITH MAXIMUM FLUIDS):

RIGHT FRONT	582	LBS.	RIGHT REAR	384 LBS.
LEFT FRONT	602	LBS.	LEFT REAR	367 LBS.
TOTAL FRONT WEIGHT	1184	LBS. (61.2 % OF TOTAL VEHICLE WEIGHT)		
TOTAL REAR WEIGHT	751	LBS. (38.8 % OF TOTAL VEHICLE WEIGHT)		
TOTAL DELIVERED WEIGHT	1935	LBS.		

VEHICLE ATTITUDE (ALL DIMENSIONS IN INCHES):

DELIVERED ATTITUDE:	RF 24.8	;LF 25.1	;RR 24.5	;LR 25.0
PRE-TEST ATTITUDE:	RF 24.4	;LF 24.4	;RR 22.2	;LR 22.2
POST-TEST ATTITUDE:	RF 23.0	;LF 22.2	;RR 20.1	;LR 21.3

WEIGHT OF TEST VEHICLE WITH REQUIRED DUMMIES AND 99 LBS. CARGO:

RIGHT FRONT	610	LBS.	RIGHT REAR	544 LBS.
LEFT FRONT	684	LBS.	LEFT REAR	544 LBS.
TOTAL FRONT WEIGHT	1294	LBS. (54.3 % OF TOTAL VEHICLE WEIGHT)		
TOTAL REAR WEIGHT	1088	LBS. (45.7 % OF TOTAL VEHICLE WEIGHT)		
TOTAL TEST WEIGHT	2382	LBS.		

WEIGHT OF BALLAST SECURED IN VEHICLE TRUNK AREA: 0 LBS.

TEST FLUID DATA

TEST FLUID TYPE: PURPLE STODDARD SOLVENT 2; SPEC. GRAVITY: 0.764

KINEMATIC VISCOSITY: 0.99 CENTISTOKES

"USEABLE" CAPACITY*: NA GALLONS ACTUAL

TEST VOLUME: 1.0 GALLONS

FUEL SYSTEM CAPACITY (DATA FROM OWNERS MANUAL): NA GALLONS

DETAILS OF FUEL SYSTEM: DNA

ELECTRIC FUEL PUMP: No FUEL INJECTION: No

DOES ELECTRIC FUEL PUMP OPERATE WITH IGNITION SWITCH "ON" AND THE ENGINE NOT OPERATING? DNA

DATA FROM "RECOMMENDED TIRE PRESSURE" LABEL ON DOOR, POST, GLOVEBOX, ETC.

VEHICLE LOAD (UP TO CAPACITY): FRONT 26 psi; REAR 26 psi

RECOMMENDED TIRE SIZE: 155 SR 13 LOAD RANGE X B, C,

VEHICLE CAPACITY: TYPES OF SEATS: Front - Bucket
Rear - Bench

NUMBER OF OCCUPANTS (DESIGNATED SEATING CAPACITY): 2 FRONT
3 REAR
5 TOTAL

CARGO LOAD 75 LBS.

TOTAL 825 LBS.

*WITH ENTIRE FUEL SYSTEM FILLED WITH FUEL TANK THROUGH CARBURETOR BOWL.

TEST CONDITIONS

TEST NUMBER: 850719

DATE OF TEST: July 19, 1985 TIME OF TEST: 12:50

WIND VELOCITY: Calm HUMIDITY: NA

AMBIENT TEMPERATURE AT IMPACT AREA: 84° F

TEMPERATURE IN OCCUPANT COMPARTMENT: 78° F

SUBJECT VEHICLE DATA

	ACTUAL	INTENDED
VEHICLE TEST WEIGHT (LBS.)	2382	2358
MDB TEST WEIGHT (LBS.)	2990	3000
MDB VELOCITY (MPH)*	33.4	33.5
IMPACT POINT (INCHES)**	38.0	37

DUMMIES

	DRIVER	MIDDLE PASSENGER	RT. FRONT PASSENGER	LEFT REAR PASSENGER	RT. REAR PASSENGER
TYPE:	SID			SID	
SERIAL NO.:	123			120	
INSTRUMENTATION:					
HEAD ACCEL.:	Yes			Yes	
CHEST ACCEL.:	Yes (Upper/Lower)			Yes (Upper/Lower)	
FEMUR L.C.'S:	No			No	
OTHER:	Pelvis/Ribs			Pelvis/Ribs	

RESTRAINT SYSTEM: Both dummies were unrestrained

* As measured over final one foot of travel.

** As measured forward of the midpoint of the test vehicle's wheelbase.

VISIBLE DUMMY CONTACT POINTS:

	DRIVER 123	PASSENGER 120
Head	Side Window Sill, Roof	Left C-Pillar, Backlight
Chest	Driver's Door Panel	Left Rear Side Wall
Abdomen	Driver's Door Panel	Left Rear Side Wall
Left Knee	Driver's Door Panel	Left Rear Side Wall
Right Knee	Left Knee	Left Knee

DOOR OPENING:

	LEFT	RIGHT
Front	NA*	Easy
Rear	DNA	DNA

SEAT MOVEMENT:

	SEAT BACK FAILURE	SEAT SHIFT
Front	No	No
Rear	No	No

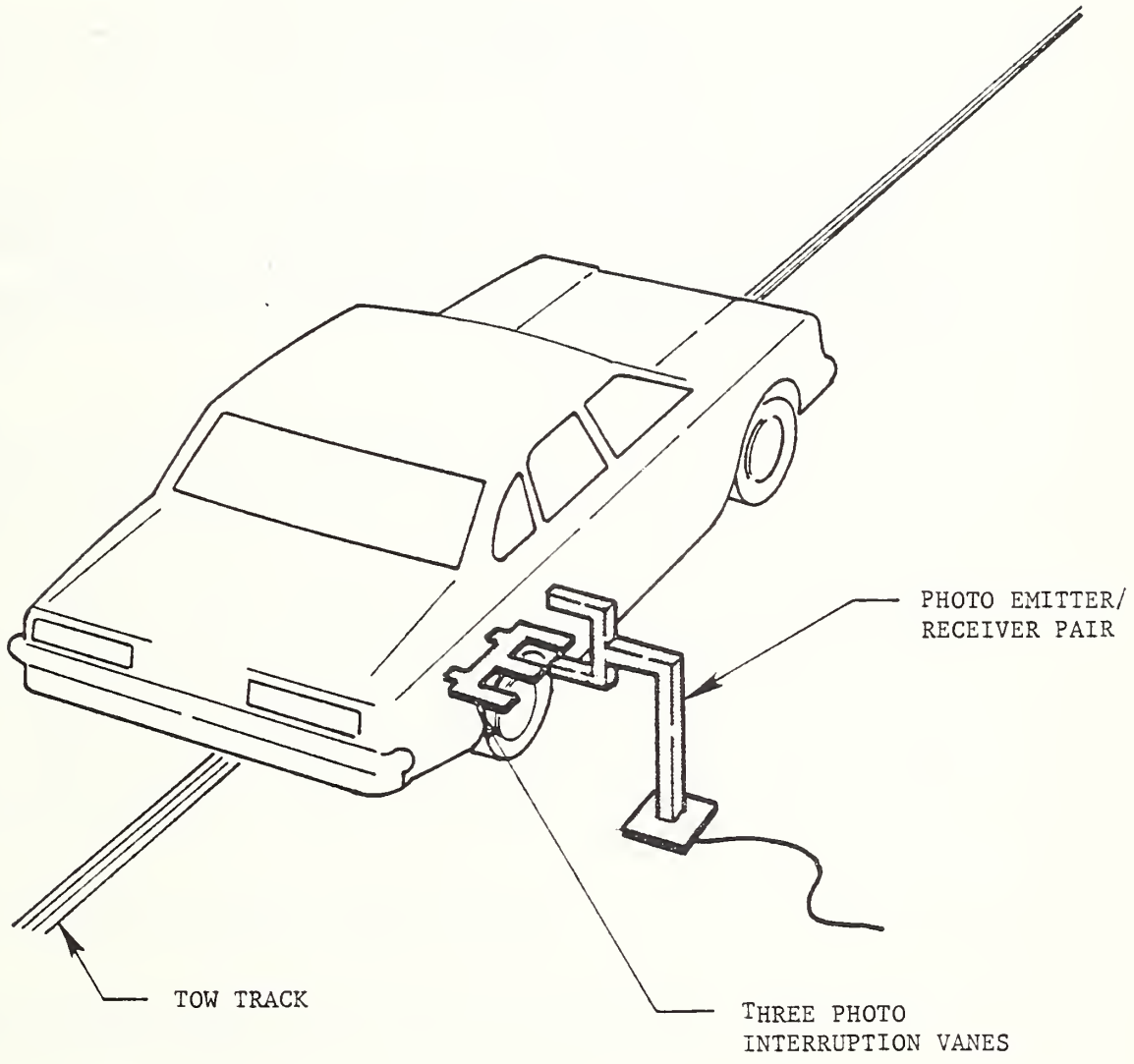
GLAZING DAMAGE: Left side of windshield cracked; all left side windows shattered; no backlight damage.

OTHER NOTABLE IMPACT EFFECTS:

Driver's door remained hinged and latched.

*CTM to open left side doors at a later date.

IMPACT VELOCITY MEASUREMENT SYSTEM



The final vane clears emitter/receiver two inches before impact.

The vanes have one foot spacing.

VEHICLE TEST WEIGHT CALCULATION

Test Weight = Unloaded Delivered Weight +
(Number of Dummies X 174 lbs.) +
Cargo Weight
= 1935 + (2 X 174) + 75 lbs.
= 2358 lbs.

To achieve test weight, the exhaust system, battery, alternator and air cleaner were removed and 1.0 gallon of Stoddard Solvent was added in the fuel tank. The weight of the test vehicle was measured by placing each wheel on a KJ Law Force Plate.

TEST ANOMALIES

1. The cables from the following data channels were pinched at approximately 35 msec into the crash event:

LURYG1 - Driver Left Upper Rib Acceleration Y-axis
LURYGA - Driver Left Upper Rib Acceleration #2 Y-axis

No peak levels or delta velocities are reported. No delta velocity plots are included.

2. After the initial pulse, the following data channels did not return to baseline:

PEVYG1 - Driver Pelvis Acceleration Y-axis
RFSXG - Vehicle Right Front Sill Acceleration X-axis
RFSZG - Vehicle Right Front Sill Acceleration Z-axis

This baseline shift affects peak levels, resultants and delta velocities. The delta velocity PEVYV1 was reported as it appears realistic up until data shifting occurred. No delta velocity is reported for data channel RFSXG. Baseline shift was determined to be due to a problem in the individual signal conditioning cards for these channels and has been corrected.

3. Cable separation occurred in data channel:

RRSXG - Vehicle Right Rear Sill Acceleration X-axis

No peak levels, resultant or delta velocity are reported. No delta velocity plot is included.

SECTION 3.0
DATA REQUIRED BY R&D

The following pages are included in this section:

1. Dummy temperature control and positioning data
2. Dummy kinematic summary
3. Vehicle crush data
4. Dummy and vehicle accelerometer location and data summary
5. High speed camera information
6. Transducer information

DUMMY TEMPERATURE CONTROL AND POSITIONING

The vehicle was kept inside the temperature controlled crash test building until approximately 2 hours prior to the test. Temperature inside the vehicle and ambient temperature at the crash area were recorded. Dummy temperature while outside the crash test building was maintained portably until approximately 1 minute prior to the test.

The following Side Impact Dummy Seating Procedure summarize the steps taken to position the instrumented, calibrated dummies in the test vehicle.

SIDE IMPACT DUMMY SEATING PROCEDURE

1. Seat Positioning

A. Place seat at the longitudinal midpoint of fore to aft adjustment (forward most locking position to rear most locking position). If no locking position is available at mid-travel, use the position immediately rearward of mid-travel.

B. If the seat back angle is adjustable, place it in the manufacturer's stated nominal design location. If not specified, set it at the first detent rearward of 25°.

C. Adjustable head restraints are set such that the top surface of the restraint is level with the cg of the dummy's head.

D. If the seat is equipped with adjustable side or lumbar supports, they are set in their "released" or full back positions.

E. All other seat adjustments are positioned to their mid-travel locations. If locking positions are not available at these mid-points, use the position immediately rearward, down, left or clockwise of mid-travel. Clockwise is defined looking rear to front or left to right relative to the vehicle. This also applies to adjustable steering columns.

2. H-point Determination

A. The SAE three-dimensional H-point machine (SAE J826 APR80 - 50th percentile male configuration) is used to locate the H-point for each surrogate.

B. The H-point machine is positioned on the seat as follows:

1. Bucket or Contoured Seats - The H-point machine is centered on the bucket or contour such that its midsagittal plane is vertical and longitudinal.

2. Bench Seats

a. driver position - The H-point machine is positioned such that its midsagittal plane is vertical, longitudinal, and contains the steering wheel center point.

b. outboard passenger positions - The H-point machine is positioned such that its midsagittal plane is vertical, longitudinal, and the same distance from the longitudinal vehicle centerline as that for the driver position.

c. Center passenger positions - The H-point machine is positioned such that its midsagittal plane is vertical and contains the longitudinal vehicle centerline.

C. Locate the H-point position using the steps outlined in sections 4 through 6 of SAE Standard J826 APR80, unless otherwise specified in section 1 or 2 of this document. Record the coordinates of this point, relative to the vehicle, for use in section 4 of this document.

3. Test Dummies

A. All NHTSA side impact crash tests use the NHTSA Side Impact Dummy (SID) as the surrogate(s), unless otherwise specified by the CTM.

B. All dummy joints are inspected for mobility prior to each test usage and reset to hold between 1 and 2 g's. This amount just barely restrains the weight of the individual limb when it is extended horizontally.

C. Each test dummy is clothed in form-fitting cotton stretch underwear with short sleeves and mid-calf length pants. Each foot of the dummy is equipped with a size 11EE shoe which meets the configuration, size, sole, and heel thickness specifications of MIL-S-13192 and weighs 1.25 $\pm$ 0.2 pounds. All the above items are supplied by the contractor.

4. Initial Dummy Placement

The SID dummy(s) is placed in the vehicle seat with its pelvis

positioned such that a lateral line passing through the dummy H-point is perpendicular to the longitudinal centerplane of the vehicle.

A. Bucket or Contoured Seats. The dummy is centered on the bucket or contoured seat such that its madsagittal plane is vertical and longitudinal. The legs are positioned as follows, keeping the femur and tibia centerlines in a plane that is as near to vertical as possible.

1. driver position placement - The right foot of the dummy is placed on the undepressed accelerator pedal, with the heel resting on the floorpan as far forward as possible. The left knee is positioned such that the distance from the outer surface of the knee pivot bolt to the dummy's midsagittal plane is 6 inches.

2. passenger position placement - The knees of the dummy are initially set 11 1/2" apart, measured betweeen the outer surfaces of the knee pivot bolt heads. If a center tunnel prevents this, place the feet on either side of the tunnel.

B. Bench seats.

1. driver position placement - The dummy is placed in the seat as outlined in section 4.A.1 except that its midsagittal plane is vertical, longitudinal and contains the steering wheel center point.

2. outboard passenger positions - The dummy is placed in the seat as outlined in section 4.A.2 except that its midsagittal plane is vertical, longitudinal, and the same distance from the vehicle centerline as that for the driver position.

3. center passenger positions - The dummy is positioned in the seat as outlined in section 4.A.2 except that its midsagittal plane is vertical and contains the vehicle centerline.

5. Initial Dummy Positioning

A. H-Point Positioning

1. With the dummy laterally positioned as in section 4, insert the pelvis angle indicator bar in the hole provided above, and to the rear of the dummy H-point. Position the longitudinal pelvis angle between 23° and 25° to the horizontal. This may be accomplished by raising the legs or flexing the upper torso forward and allowing the

pelvis to rotate. The lateral pelvis angle is to be horizontal.

2. Apply sufficient force on the lower torso in a horizontal and vertical direction to place the dummy H-point at the coordinates obtained in section 2.

3. If the H-point cannot be placed at the desired coordinates, adjust the pelvis angle within the 2^{o} band and reposition to the coordinates. After repositioning the H-point, any deviation from the desired coordinates is recorded and used to indicate actual H-point locations. This deviation is not to exceed 1/2".

B. Upper Torso Positioning. The dummy's upper torso should rest against the seat back. If not, adjust the upper torso, maintaining the H-point location and pelvis angle, so that the dummy's back rests against the seat back. If this cannot be done, modify the H-point location and/or pevis angle within the allowable bands until the back rests against the seat.

6. Final Dummy Positioning

A. Driver Position. Without inducing pelvis or torso movement, the dummy's right foot is placed on the undepressed accelerator pedal with the heel resting as far forward as possible on the floorpan. The left foot is set perpendicular to the lower leg with the heel resting on the floorpan in the same lateral line as the right heel. If possible within these constraints, the dummy's thighs should be in contact with the seatpan.

B. Front Passenger Positions. Without inducing pelvis or torso movement, place the dummy's feet on the vehicle's toeboard with the heel resting on the floorpan as close as possible to the intersection of the toeboard and floorpan. If the feet cannot be placed on the toeboard, they are set perpendicular to the lower legs and placed as far forward as possible such that the heels rest on the floorpan.

C. Rear Passenger Positions. Without inducing pelvis or torso movement, the feet are placed flat on the floorpan and beneath the front

seat as far forward as possible without front seat interference. If necessary, change the distance between the knees as required to place the feet beneath the seat. Record the new distance.

D. Vehicles with wheelhouse projections in the passenger compartment. The foot (feet) in question is placed in the wheel of the floorpan/toeboard and not in the wheelhouse projection. This is done by twisting the foot at the ankle, maintaining the upper and lower leg positions outlined in section 4. If this does not resolve the situation, move the leg of the foot in question just enough to achieve the correct position, keeping the femur and tibia centerlines in a plane that is as near to vertical as possible. Record the new distance between the knees.

E. The knee positions are to be as outlined in section 4, unless modified as in section 6. The plane containing the femur and tibia centerlines for each leg is to be as near to vertical as possible without inducing pelvis or torso movement. Record the distance between the knees for each dummy.

F. Prior to conducting the test, the dummy position is visually checked. The dummy is to be properly positioned laterally with its midsagittal plane vertical and longitudinal, and the upper torso resting against the seat back. The H-point and pelvis angle are to be within the specified ranges and the foot, knee, and leg placements are to be as outlined. The CTM is to be satisfied with the final dummy position and any deviations from this procedure are to be approved by the CTM.

G. The final dummy position is recorded. These measurements are to include, but not be limited to, pelvis and head angles as well as actual H-point and head cg locations relative to the vehicle. The straight-line distance from the H-point to the center of the outer ankle bolt is also recorded for one of the legs (eg. left H-point to left ankle bolt).

DUMMY IN-VEHICLE POSITION RECORDING SHEET

VEHICLE NHTSA NO. R & D

MFR./MAKE/MODEL: Nissan Sentra

FRONT SEAT TYPE: ____ BENCH
X BUCKET
____ SPLIT BENCH

ADJUSTER TYPE: X MANUAL
____ POWER

BUCKET SEAT BACK TYPE: ____ FIXED
X ADJUSTABLE

TECHNICIANS:
1. B. Miller
2. R. Benavides
3. ____

POSITIONING DATE: July 19, 1985

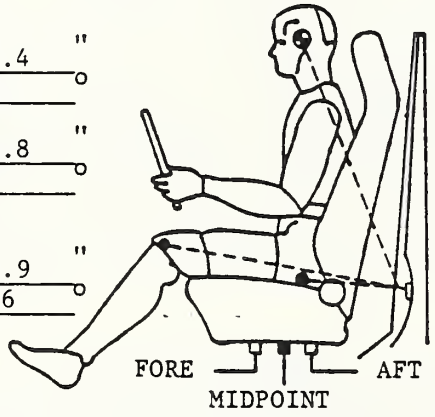
AMBIENT TEMP.: 75° F. TIME: 8:15

DRIVER DUMMY # 123

HEAD 24.4 "
TARGET* 25 °

KNEE 30.8 "
JOINT 94 °

APPROX. "H" POINT 16.9 " 106 °

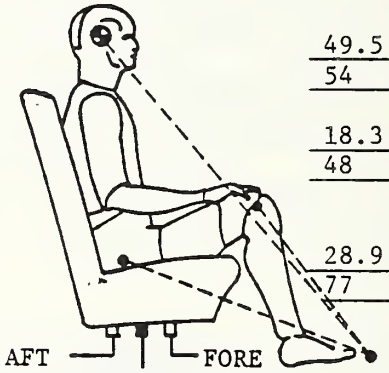


REAR PASSENGER DUMMY # 120

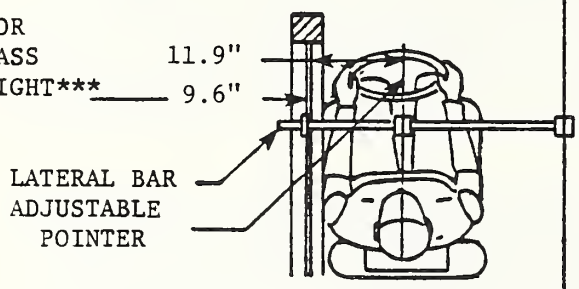
49.5 "HEAD
54 °TARGET**

18.3 "KNEE
48 °JOINT

APPROX. 28.9 " "H"
77 °POINT

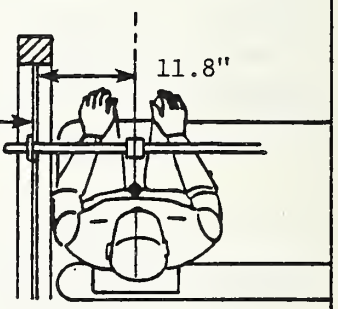


DOOR GLASS HEIGHT*** 11.9" 9.6"



DRIVER DUMMY # 123

DOOR GLASS HEIGHT FIXED 11.8"

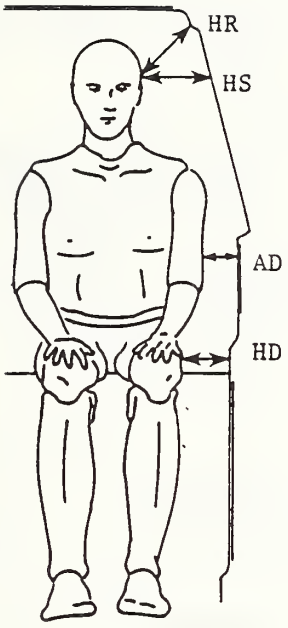


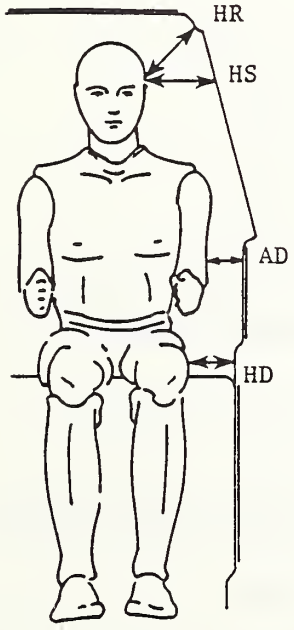
PASSENGER DUMMY # 120

*All driver dummy dimensions referenced to top of striker bolt and all angles referenced to vertical.

**All passenger dummy dimensions referenced to front seat back latch bolt with front seat in mid-position and all angles referenced to vertical.

***Door glass height is equal on the right and left side of vehicle at dummy nose level.

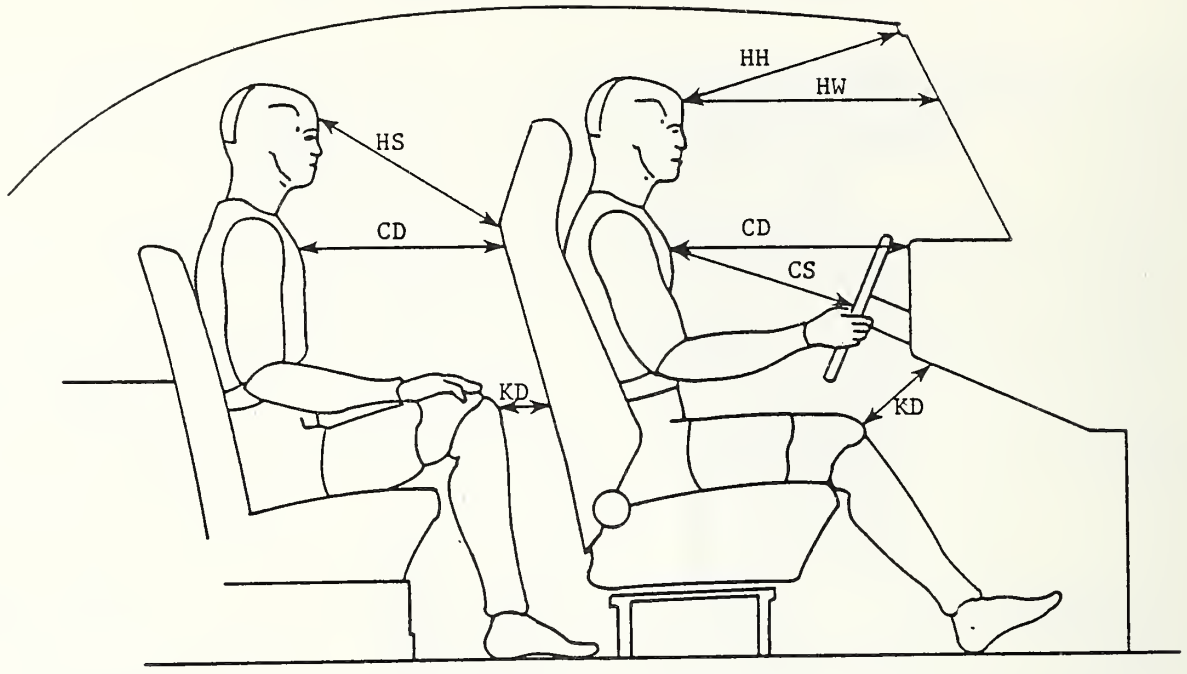




	DRIVER	PASSENGER
	123	120
HR	6.3	7.1
HS	8.9	6.2
AD	3.8	3.5
HD	6.2	5.3

ALL MEASUREMENTS IN INCHES

DUMMY LATERAL CLEARANCE DIMENSIONS



	DRIVER 123	PASSENGER 120
HH	13.4	DNA
HW	19.4	DNA
HS	DNA	26.0
CD	20.8	19.8
CS	12.6	DNA
KDL	4.5	4.4
KDR	5.4	4.4

ALL MEASUREMENTS IN INCHES

DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

SAE 3D H-POINT MACHINE LOCATION AND DUMMY LOCATION DATA

	DRIVER #123*	PASSENGER #U02*
SAE 3D H-POINT MACHINE LOCATION:	X = -9.31 Z = 6.50	R = -43.25 Z = 7.31
DUMMY H-POINT LOCATION:	X = -9.19 Z = 6.06	X = -42.88 Z = 7.31
DUMMY HEAD LOCATION:	X = -17.69 Z = 31.97	X = -52.63 Z = 32.31
DUMMY HEAD ANGLE:	2°	6°
DUMMY PELVIC ANGLE:	23°	23°
DUMMY H-POINT TO LEFT ANKLE BOLT DISTANCE:	30.0	25.5

*All location measurements referenced to left most front seat track bolt in two-dimensional rectangular coordinates: +X = forward, +Z = upward.

All dimensions in inches except as noted.

All angles referenced to horizontal, positive is upward.

DUMMY KINEMATIC SUMMARY

DRIVER

During impact, the dummy's torso contacted the driver's door and the head contacted the side window sill. The dummy rebounded laterally across the front occupant compartment. The buttocks contacted the right front door inner panel, and the upper thorax contacted the right front window sill as the rear of the dummy's head grazed the roof. The dummy came to rest lying on its left side on the right front seat with its head outboard of the head restraint.

PASSENGER

During impact, the dummy's torso contacted the left rear side wall and the head contacted the left C-pillar and the backlight. The dummy rebounded laterally across the rear occupant compartment until its buttocks reached approximately the middle of the rear seat and fell over onto its right side. The head contacted the rear seatback. The dummy came to rest laying across the rear seat on its right side.

VEHICLE EXTERIOR PROFILES AND STATIC CRUSH

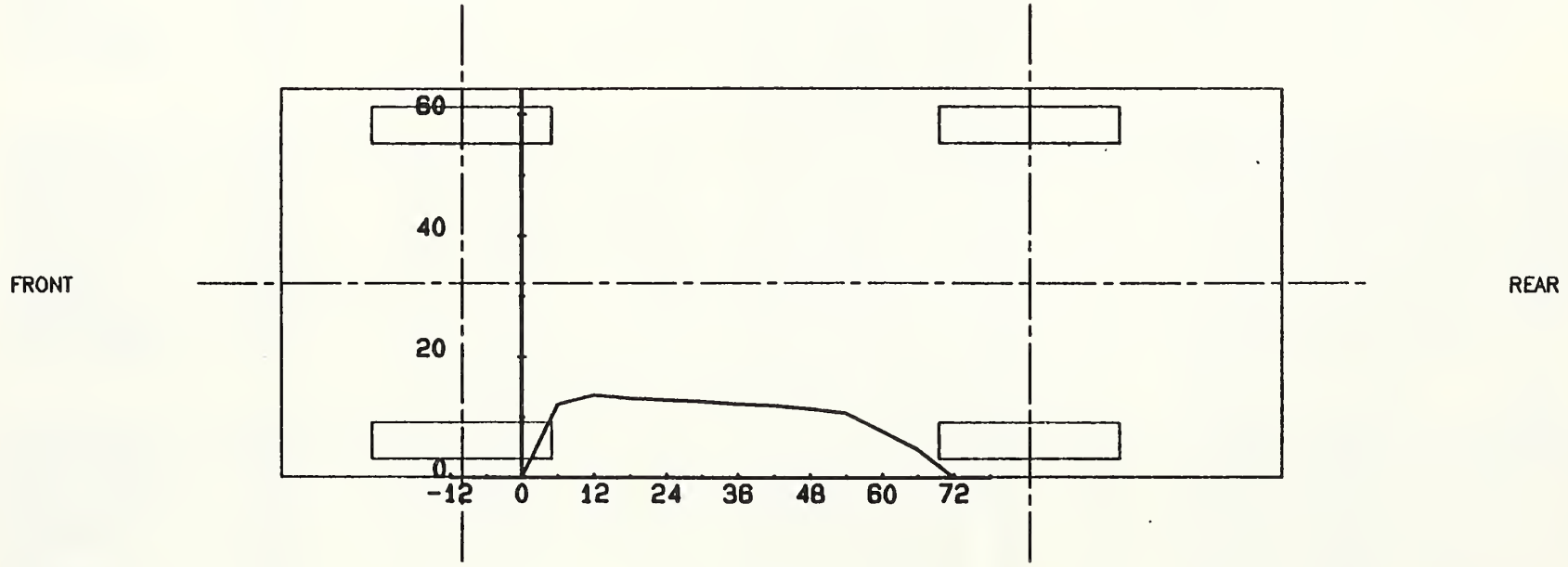
ZERO DISTANCE AT PROJECTED IMPACT POINT*

LOCATION	HEIGHT (in)	6	0	6	12	18	24	30	36	42	48	54	60	66	72	78
PRE-TEST PROFILE (DISTANCE IN INCHES FROM REFERENCE PLANE**)																
Axle Height	10.5	X	X	18.9	18.9	18.9	18.6	18.8	18.8	18.8	18.8	18.8	18.9	18.9	X	X
H-Point	19.8	X	X	X	16.5	16.4	16.4	16.3	16.3	16.3	16.3	16.3	16.4	16.4	16.3	X
Mid Door	23.4	X	16.4	16.5	16.4	16.3	16.2	16.1	16.1	16.1	16.1	16.2	16.2	16.3	16.3	16.0
Window Sill	34.3	19.5	19.1	18.8	18.6	18.5	18.4	18.4	18.3	18.3	18.3	18.3	18.3	18.4	18.4	18.6
Window Top	51.8	X	X	X	X	X	X	28.1	27.6	27.4	27.2	27.1	27.1	27.0	27.0	27.3
POST-TEST PROFILE (DISTANCE IN INCHES FROM REFERENCE PLANE**)																
Axle Height	10.5	X	X	31.1	32.5	32.0	31.5	31.3	31.0	30.7	30.1	29.4	26.6	23.5	X	X
H-Point	19.8	X	X	X	39.9	34.1	34.2	34.1	34.2	34.2	34.2	33.8	32.7	29.8	25.1	X
Mid Door	23.4	X	28.4	30.3	30.9	31.0	31.3	31.6	31.8	32.1	32.2	32.1	32.1	30.9	26.3	23.4
Window Sill	34.3	22.6	23.7	26.0	29.1	30.4	30.4	30.5	30.7	31.0	31.3	31.6	31.9	30.4	26.8	23.9
Window Top	51.8	X	X	X	X	X	X	31.9	31.5	31.1	30.9	30.8	30.4	30.1	29.7	29.6
STATIC CRUSH (IN)																
Axle Height	10.5	X	X	12.2	13.6	13.1	12.9	12.5	12.2	11.9	11.3	10.6	7.7	4.6	X	X
H-Point	19.8	X	X	X	23.4	17.7	17.8	17.8	17.9	17.9	17.9	17.5	16.3	13.4	8.8	X
Mid Door	23.4	X	12.0	13.8	14.5	14.7	15.1	15.5	15.7	16.0	16.1	15.9	15.9	14.6	10.0	7.4
Window Sill	34.3	3.1	4.6	7.2	10.5	11.9	12.0	12.1	12.4	12.7	13.0	13.3	13.6	12.0	8.4	5.3
Window Top	51.8	X	X	X	X	X	X	3.8	3.9	3.7	3.7	3.7	3.3	3.1	2.7	2.6

* Projected impact point is 37 inches forward of driver's side wheelbase midpoint. Column readings are front to rear from left to right.

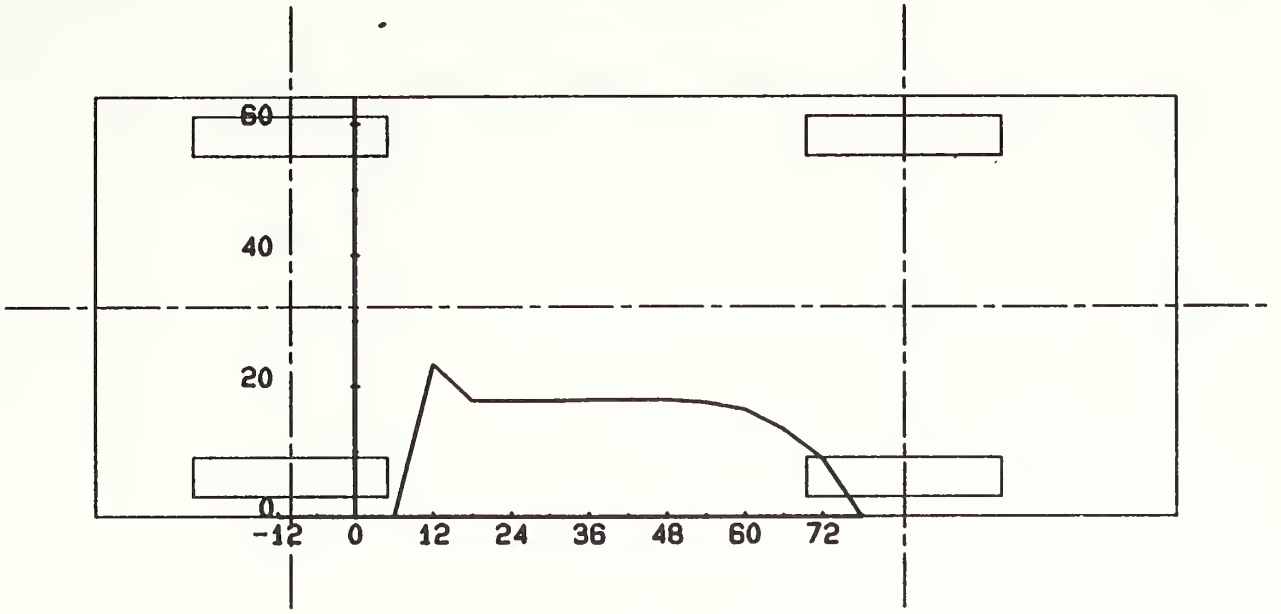
** Reference plane is parallel to and 48 inches from the vehicle longitudinal centerline.

VEHICLE EXTERIOR STATIC CRUSH PROFILE



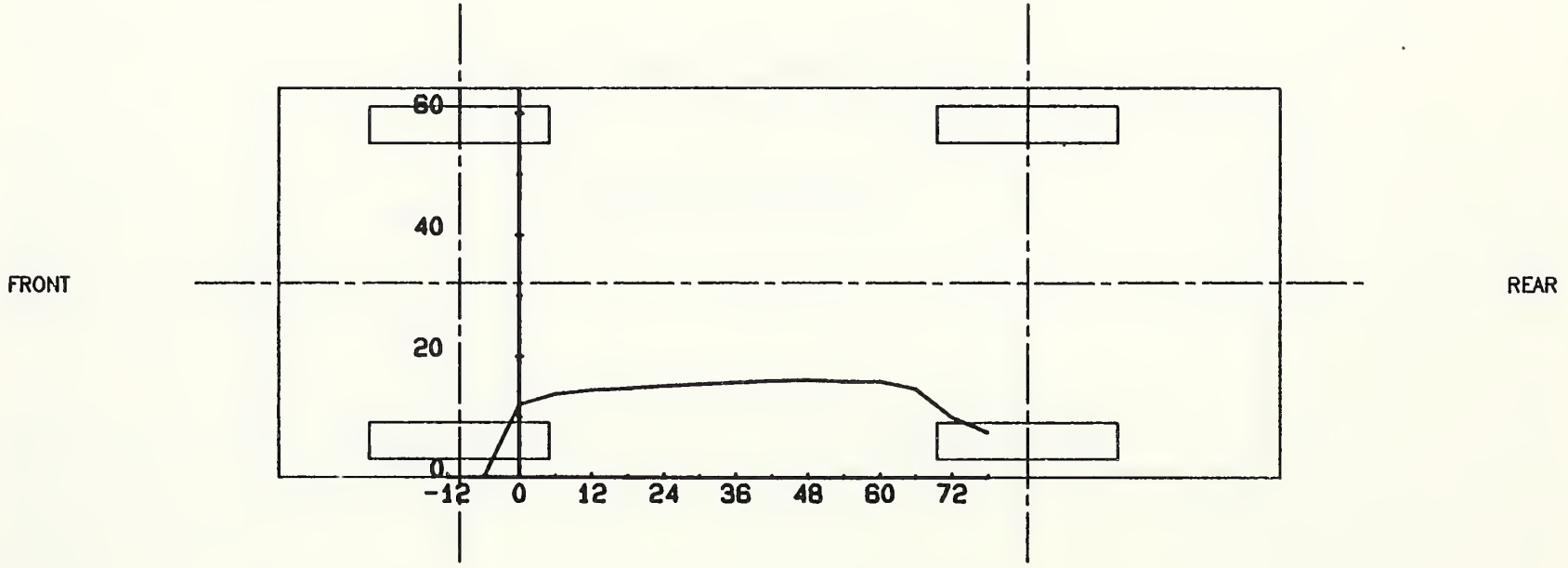
PROFILE LEVEL EQUALS AXLE HEIGHT WHICH IS 10.5 " ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.036

VEHICLE EXTERIOR STATIC CRUSH PROFILE



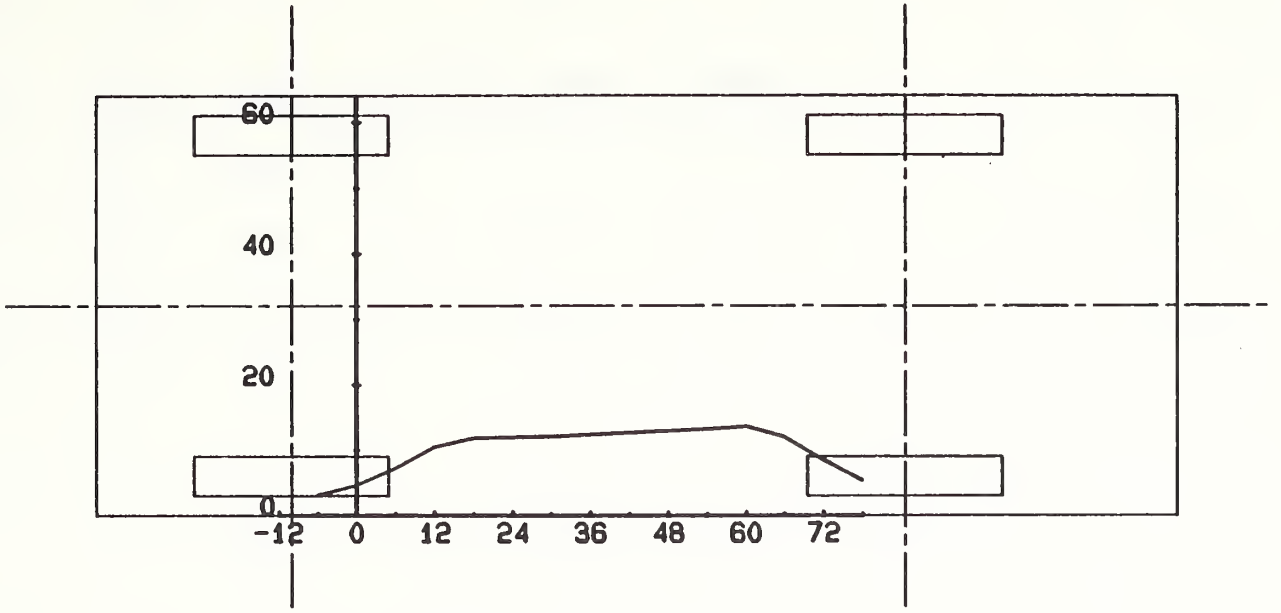
PROFILE LEVEL EQUALS H-POINT HEIGHT WHICH IS 19.8" ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.036

VEHICLE EXTERIOR STATIC CRUSH PROFILE



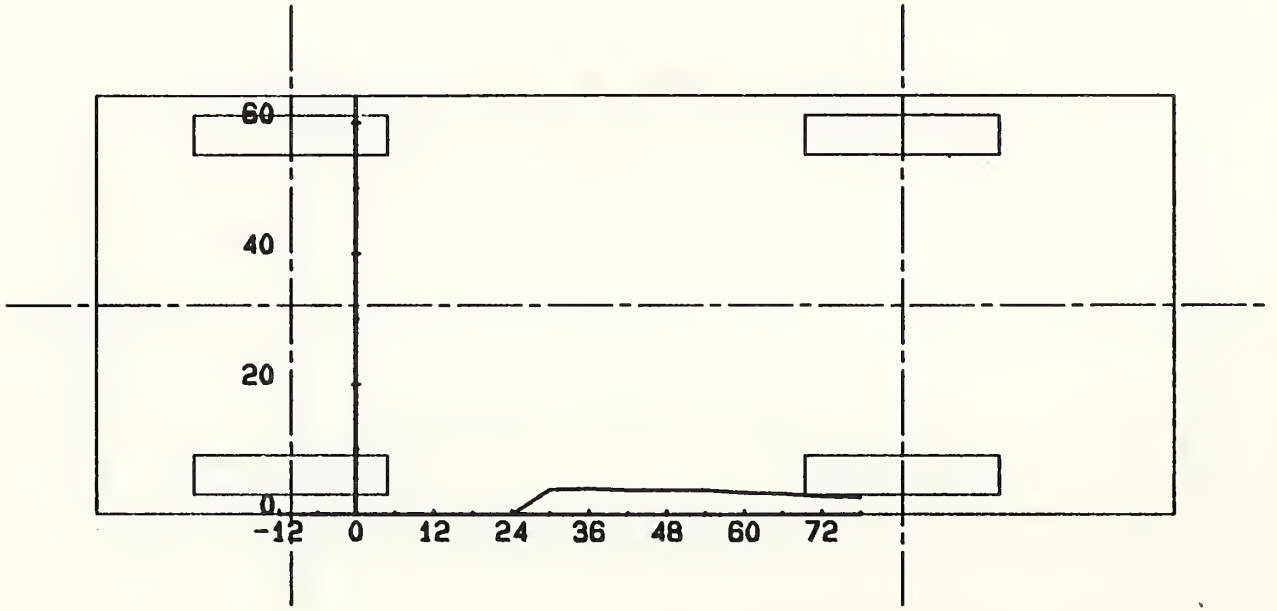
PROFILE LEVEL EQUALS MID DOOR HEIGHT WHICH IS 23.4 " ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.036

VEHICLE EXTERIOR STATIC CRUSH PROFILE



PROFILE LEVEL EQUALS WINDOW SILL HEIGHT WHICH IS 34.3 " ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.036

VEHICLE EXTERIOR STATIC CRUSH PROFILE



PROFILE LEVEL EQUALS WINDOW TOP HEIGHT WHICH IS 51.8 " ABOVE GROUND LEVEL
(0,0) EQUALS PROJECTED IMPACT POINT
SCALE FACTOR EQUALS 0.036

SIDE IMPACT DUMMY DATA SUMMARY

	DRIVER DUMMY				PASSENGER DUMMY			
	POSITIVE DIRECTION*		NEGATIVE DIRECTION**		POSITIVE DIRECTION*		NEGATIVE DIRECTION**	
	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)	MAX (g)	TIME (msec)
HEAD ACCELERATION								
LONGITUDINAL	21.36	306.75	42.27	92.88	10.39	110.88	35.95	54.50
LATERAL	54.48	48.00	25.83	34.38	119.14	53.75	11.90	42.88
VERTICAL	39.44	45.38	68.85	58.75	54.13	59.88	25.45	51.63
RESULTANT		71.05 @ 58.75				122.88 @ 53.75		
HIC	682.77 from 31.63 to 100.50 msec				707.98 from 51.13 to 62.38 msec			
CHEST ACCELERATION								
UPPER SPINE								
LONGITUDINAL	30.43	51.25	34.14	38.13	9.04	56.25	17.33	72.50
LATERAL (P)***	143.40	38.13	61.73	62.50	60.67	52.50	12.49	40.63
LATERAL (R)***	147.49	38.13	62.38	62.50	63.29	52.50	11.53	40.63
VERTICAL	16.13	25.63	21.88	30.62	11.77	33.13	19.57	50.63
RESULTANT (P)		147.80 @ 38.13				63.02 @ 51.88		
RESULTANT (R)		151.76 @ 38.13				65.43 @ 52.50		
DELTA V (MPH)****		28.9 @ 58.75 (P)				22.3 @ 104.38 (P)		
		30.2 @ 58.75 (R)				23.3 @ 105.00 (R)		
LOWER SPINE								
LONGITUDINAL	73.16	30.62	45.75	35.63	16.83	51.25	18.71	37.50
LATERAL (P)	112.03	31.88	28.06	61.25	53.47	45.00	14.43	63.75
LATERAL (R)	113.39	31.88	28.62	61.87	53.51	45.62	13.21	63.75
VERTICAL	37.13	35.00	13.64	151.25	12.58	33.13	9.08	61.25
RESULTANT (P)		128.89 @ 31.25				55.06 @ 45.00		
RESULTANT (R)		130.01 @ 31.25				55.35 @ 45.62		
DELTA V (MPH)		32.5 @ 50.63 (P)				22.5 @ 60.62 (P)		
		32.9 @ 51.25 (R)				22.8 @ 60.62 (R)		
LEFT UPPER RIB								
LATERAL (P)	---	--- Y	---	--- Y	63.34	41.25	6.17	129.38
LATERAL (R)	---	--- Y	---	--- Y	62.66	41.25	6.43	129.38
DELTA V (MPH)		--- @ --- (P) Y				25.2 @ 102.50 (P)		
		--- @ --- (R) Y				25.1 @ 100.63 (R)		
LEFT LOWER RIB								
LATERAL (P)	152.33	33.13	35.33	66.87	71.19	42.50	18.05	75.00
LATERAL (R)	150.99	32.50	33.89	66.87	69.04	42.50	19.37	75.00
DELTA V (MPH)		28.2 @ 64.38 (P)				25.5 @ 71.88 (P)		
		31.7 @ 63.75 (R)				25.3 @ 71.88 (R)		
PELVIS ACCELERATION								
LONGITUDINAL	12.24	44.13	21.24	38.25	14.41	66.38	65.68	35.50
LATERAL	179.13	27.00 Y	11.69	41.50 Y	141.29	33.88	14.25	71.63
VERTICAL	67.58	31.75	6.45	33.88	34.89	41.50	6.86	64.63
RESULTANT		179.52 @ 27.00				148.53 @ 35.25		
DELTA V (MPH)		29.1 @ 34.50				21.9 @ 50.50		

SIDE IMPACT DUMMY DATA SUMMARY CONTD

	DRIVER DUMMY				PASSENGER DUMMY			
	POSITIVE DIRECTION*		NEGATIVE DIRECTION**		POSITIVE DIRECTION*		NEGATIVE DIRECTION**	
	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)	MAX (in)	TIME (msec)
RIB DEFLECTION †	1.79	99.50	0.16	225.38	1.68	70.63	0.10	36.75

* LONGITUDINAL:	FORWARD	**LONGITUDINAL:	REARWARD
LATERAL:	RIGHTWARD	LATERAL:	LEFTWARD
VERTICAL:	UPWARD	VERTICAL:	DOWNWARD

*** (P) = Primary Sensor, (R) = Redundant Sensor

**** For dummy channels, Delta V is the velocity change at the approximate time of separation from the contact area.

† Compression: Positive

ϒ See TEST ANOMALIES

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

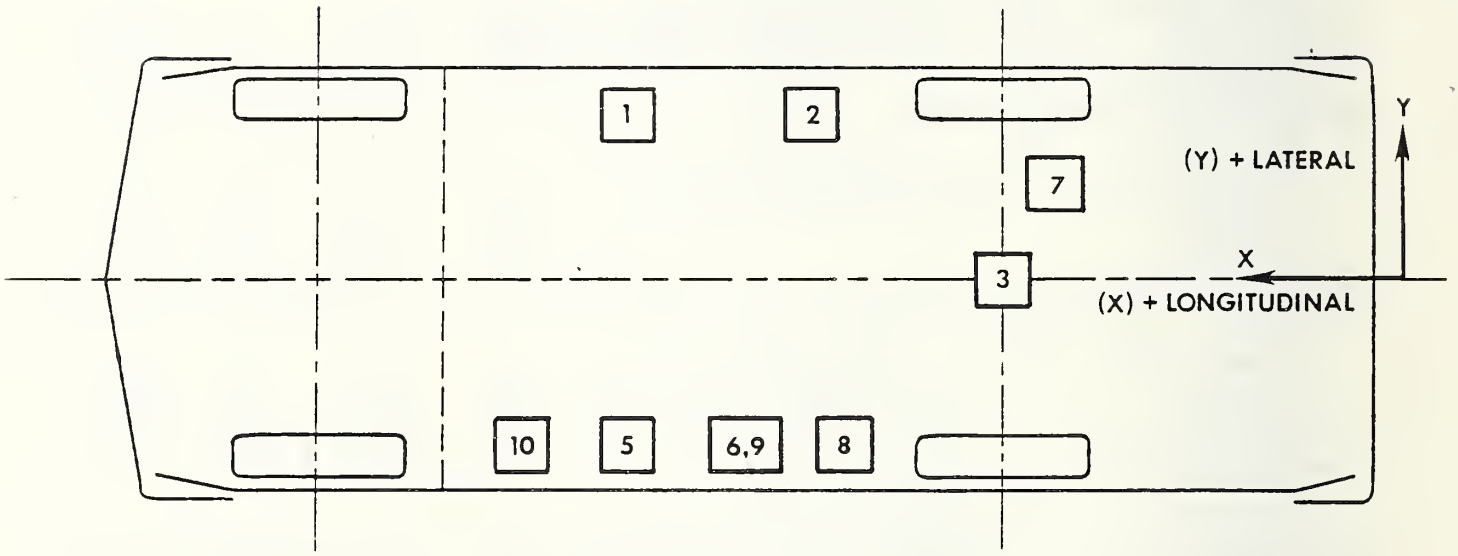
NO.	LOCATION	X*	Y*	Z*	POSITIVE DIRECTION MAX (g)	POSITIVE DIRECTION TIME (msec)	NEGATIVE DIRECTION MAX (g)	NEGATIVE DIRECTION TIME (msec)
1	RIGHT SILL AT FRONT SEAT	96.9	25.9	10.0				
	(LONGITUDINAL)	ΔV = --- mph @ --- msec [Y]			7.12	73.38 [Y]	6.15	29.25 [Y]
	(LATERAL)	ΔV = 15.2 mph @ 110.00 msec			15.75	12.75	2.13	200.38
	(VERTICAL)				10.62	68.88 [Y]	3.11	19.00 [Y]
	(RESULTANT)					17.35 @	13.13 [Y]	
2	RIGHT SILL AT REAR SEAT	66.9	25.9	9.6				
	(LONGITUDINAL)	ΔV = --- mph @ --- msec [Y]			---	--- [Y]	---	--- [Y]
	(LATERAL)	ΔV = 19.7 mph @ 110.00 msec			17.02	32.13	1.35	141.75
	(VERTICAL)				5.48	19.75	4.24	62.50
	(RESULTANT)					--- @	--- [Y]	
3	REAR DECK OVER AXLE	39.5	0.0	17.0				
	(LONGITUDINAL)	ΔV = -3.4 mph @ 110.00 msec			1.94	40.25	12.69	24.63
	(LATERAL)	ΔV = 21.8 mph @ 110.00 msec			18.08	36.13	2.73	138.25
	(VERTICAL)				11.88	33.63	22.98	28.50
	(RESULTANT)					24.71 @	28.50	
4	LEFT SILL AT REAR SEAT	67.0	-26.0	9.8				
	(LATERAL)	ΔV = 12.8 mph @ 50.88 msec			84.32	27.63	23.68	21.50
5	LEFT SILL AT FRONT SEAT	96.9	-26.0	9.5				
	(LATERAL)	ΔV = 12.7 mph @ 54.38 msec			68.05	27.75	26.07	20.38
6	LEFT FRONT DOOR CENTERLINE	92.3	-26.6	18.4				
	(LATERAL)	ΔV = 19.7 mph @ 21.00 msec			113.89	14.50	74.62	26.38
7	RIGHT REAR COMPARTMENT	26.6	20.3	18.5				
	(LONGITUDINAL)				3.15	79.50	4.92	25.63
8	MIDREAR OF LEFT FRONT DOOR	84.1	-26.6	23.2				
	(LATERAL)	ΔV = 25.8 mph @ 14.63 msec			147.95	14.00	77.13	19.50
9	UPPER LEFT FRONT DOOR CENTERLINE	92.3	-26.4	28.6				
	(LATERAL)	ΔV = 23.8 mph @ 22.63 msec			80.91	13.75	109.20	29.25
10	MIDREAR OF LEFT FRONT DOOR	100.9	-26.6	22.8				
	(LATERAL)	ΔV = 10.9 mph @ 13.00 msec			96.81	13.13	53.67	26.25

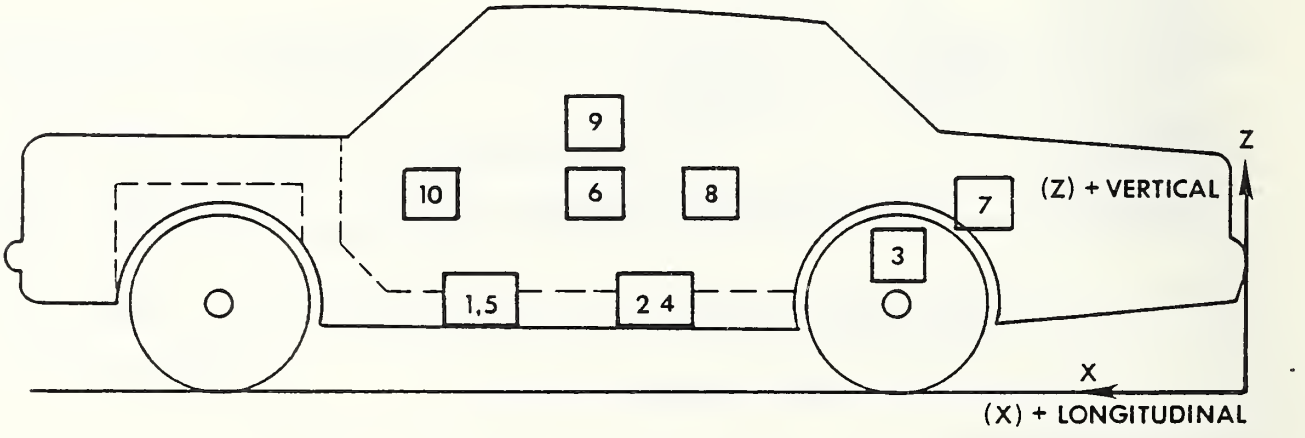
* Reference: X - Rear Bumper (+ Forward), Y - Vehicle Centerline (+ To Right), Z - Ground Level (+ Up)

All measurements of accelerometer locations in inches.

[Y] See TEST ANOMALIES

VEHICLE ACCELEROMETER LOCATIONS





YAW RATE GYRO LOCATION AND DATA SUMMARY

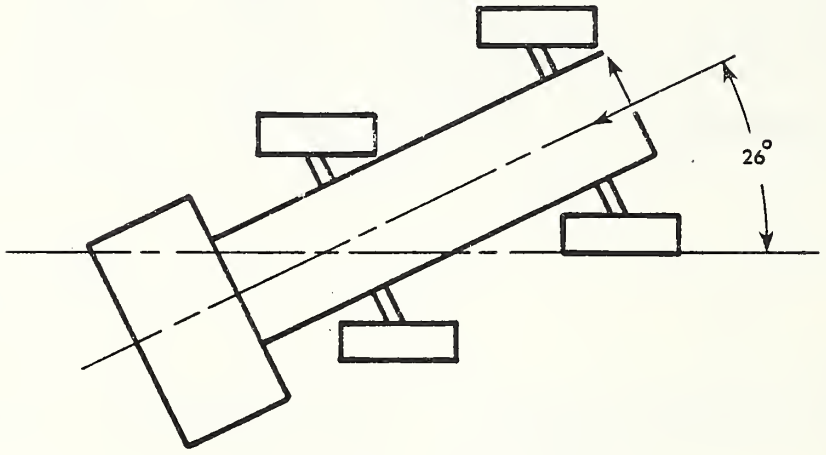
LOCATION	X*	Y*	Z*	POSITIVE DIRECTION MAX (deg/sec)	POSITIVE DIRECTION TIME (msec)	NEGATIVE DIRECTION MAX (deg/sec)	NEGATIVE DIRECTION TIME (msec)
YAW RATE GYRO	109.4	0.0	16.8	191.50	134.38	44.84	28.50

*Reference: X - Rear Bumper (+ forward), Y - Vehicle Centerline (+ to right), Z - Ground Level (+ up)

All measurements of rate gyro in inches.

Yaw rotation is positive when measured counterclockwise as viewed from above.

MOVING BARRIER ACCELEROMETER LOCATIONS AND DATA SUMMARY



NO.	LOCATION	X*	Y*	Z*	POSITIVE DIRECTION MAX (g)	POSITIVE DIRECTION TIME (msec)	NEGATIVE DIRECTION MAX (g)	NEGATIVE DIRECTION TIME (msec)
1	CENTER OF GRAVITY	73.5	0.0	12.8				
	(LONGITUDINAL)	ΔV = -16.3 mph @ 110.00 msec			0.72	133.13	13.84	44.25
	(LATERAL)	ΔV = -3.1 mph @ 110.00 msec			1.39	87.38	7.33	35.00
	(VERTICAL)				2.96	53.50	4.41	37.25
	(RESULTANT)					15.03 @ 35.50		
2	REAR FRAME MEMBER	19.4	-18.5	12.7				
	(LONGITUDINAL)	ΔV = -15.8 mph @ 110.00 msec			1.70	131.50	15.49	33.88
	(LATERAL)	ΔV = 0.9 mph @ 110.00 msec			5.48	32.88	2.36	38.13

* Reference: X - Rear Most Point of Frame (+ To Forward), Y - Barrier Centerline (+ To Right), Z - Ground Level (+ To Up)

All measurements of accelerometer locations in inches.

CAMERA INFORMATION

CAMERA NO.	LOCATION	TYPE	LENS (mm)	SPEED (fps)	PURPOSE OF CAMERA DATA
1	Onboard MDB - Tight	Photosonic 1B	25	1000	Closeup of impact point
2	Onboard MDB - Wide	Photosonic 1B	13	995	Dummy kinematics
3	Overhead - Tight	Photosonic 1B	25	1000	Closeup of impact point
4	Overhead - Wide	Photosonic 1B	8	923	Vehicle dynamics
5	Ground Level - Right	Photosonic 1B	25	950	Overall view
6	Ground Level - Left	Photosonic 1B	17	1125	Overall view
7	Onboard Windshield	Photosonic 1B	8	1000	Driver kinematics - front view
8	Onboard Roof	Photosonic 1B	8	1008	Door/Driver contact velocity
9	Onboard Driver	Photosonic 1B	8	763	Driver kinematics
10	Onboard Passenger	Photosonic 1B	8	988	Passenger kinematics

LOCATIONS OF OFFBOARD HIGH SPEED CAMERAS

CAMERA NO.	X	Y	Z
1	0	0	25'
2	0	0	25'
5	24'10"	58'8"	45"
6	-20'11"	-13'	45"

Origin of Coordinate System is Point of Impact

+X = Forward with Respect to Striking Vehicle's Velocity Vector
+Y = Rightward with Respect to Striking Vehicle's Velocity Vector
+Z = Upward with Respect to Striking Vehicle's Velocity Vector

NON-GOVERNMENT FURNISHED TRANSDUCER INFORMATION

PARAMETER BEING MEASURED	TYPE OF TRANSDUCER	MODEL NUMBER	SERIAL NUMBER	MFGR.	DATE OF LAST CALIBRATION	SENSITIVITY	DESIRED FULL SCALE (ENGR. UNITS)
BCGXG	Accel	4-202-0001	18851	Bell Howell	6/17/85	.241 MV/G	50 G
BCGYG	Accel	4-202-0001	18859	Bell Howell	6/17/85	.238 MV/G	50 G
BCGZG	Accel	4-202-0001	18847	Bell Howell	6/17/85	.246 MV/G	50 G
BFCXG	Accel	4-202-0001	18240	Bell Howell	6/12/85	.240 MV/G	50 G
BRCXG	Accel	4-202-0001	19022	Bell Howell	6/12/85	.222 MV/G	50 G

All dummy and struck vehicle accelerometers were Government Furnished Equipment and were Endevco 2264 Accelerometers.

APPENDIX A

PHOTOGRAPHS

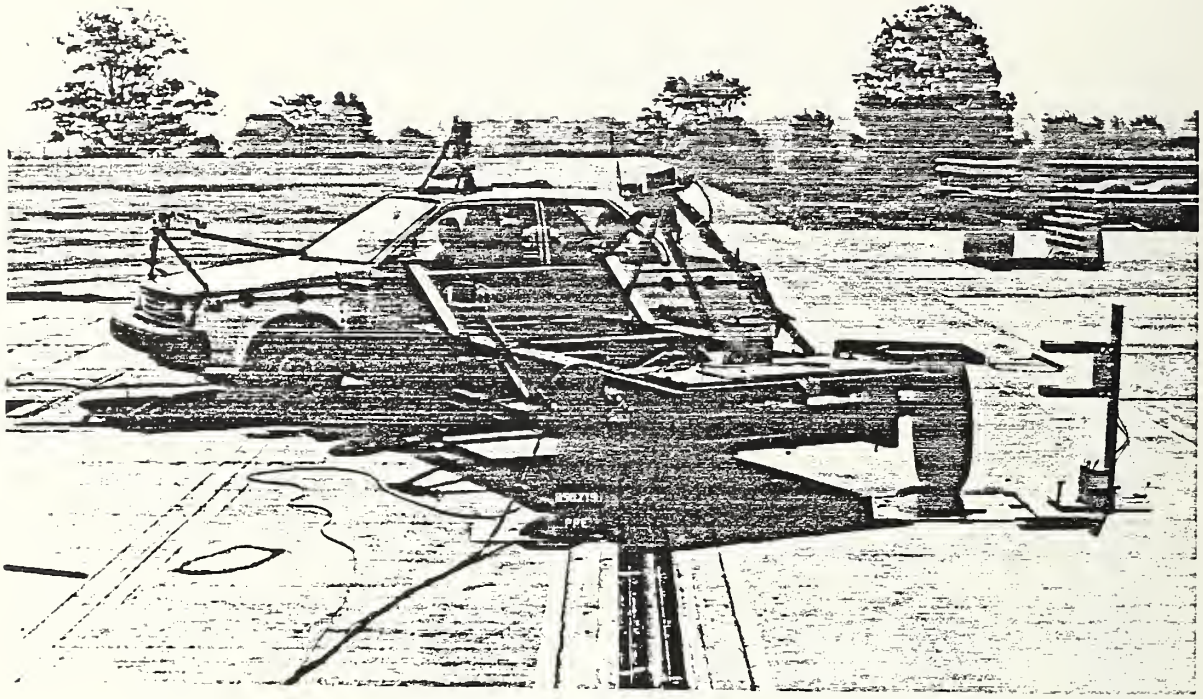


Figure A-1. PRE-TEST OVERALL - VIEW 1

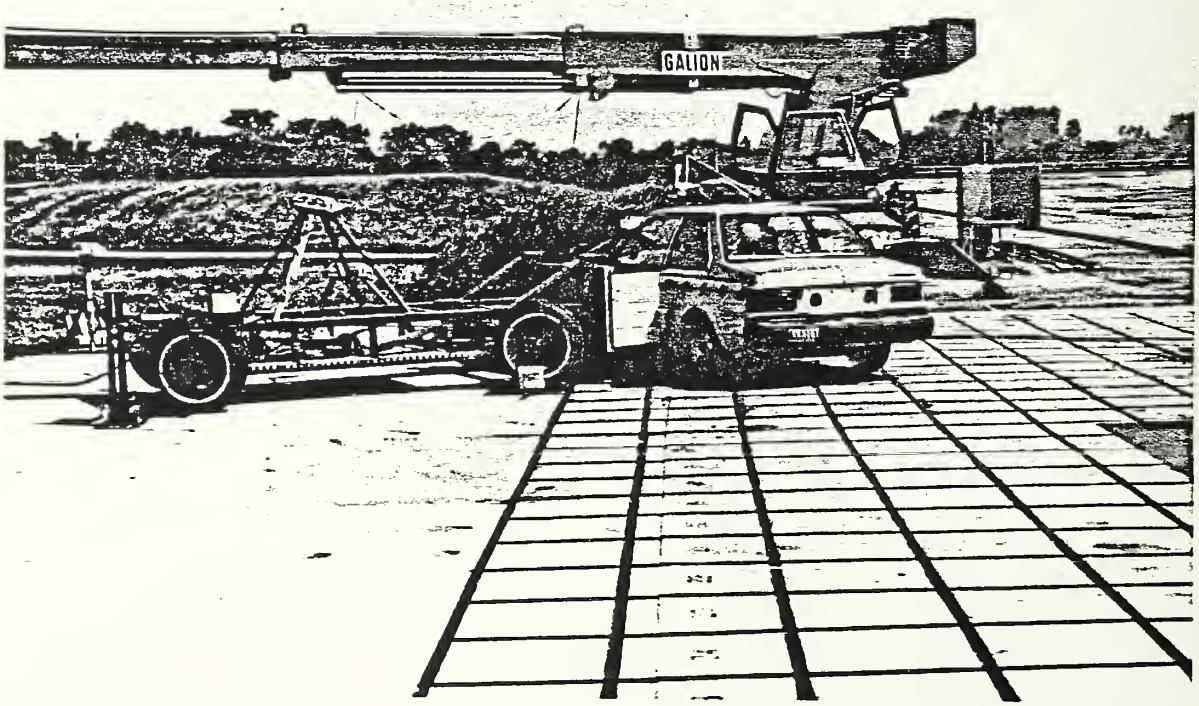


Figure A-2. PRE-TEST OVERALL - VIEW 2

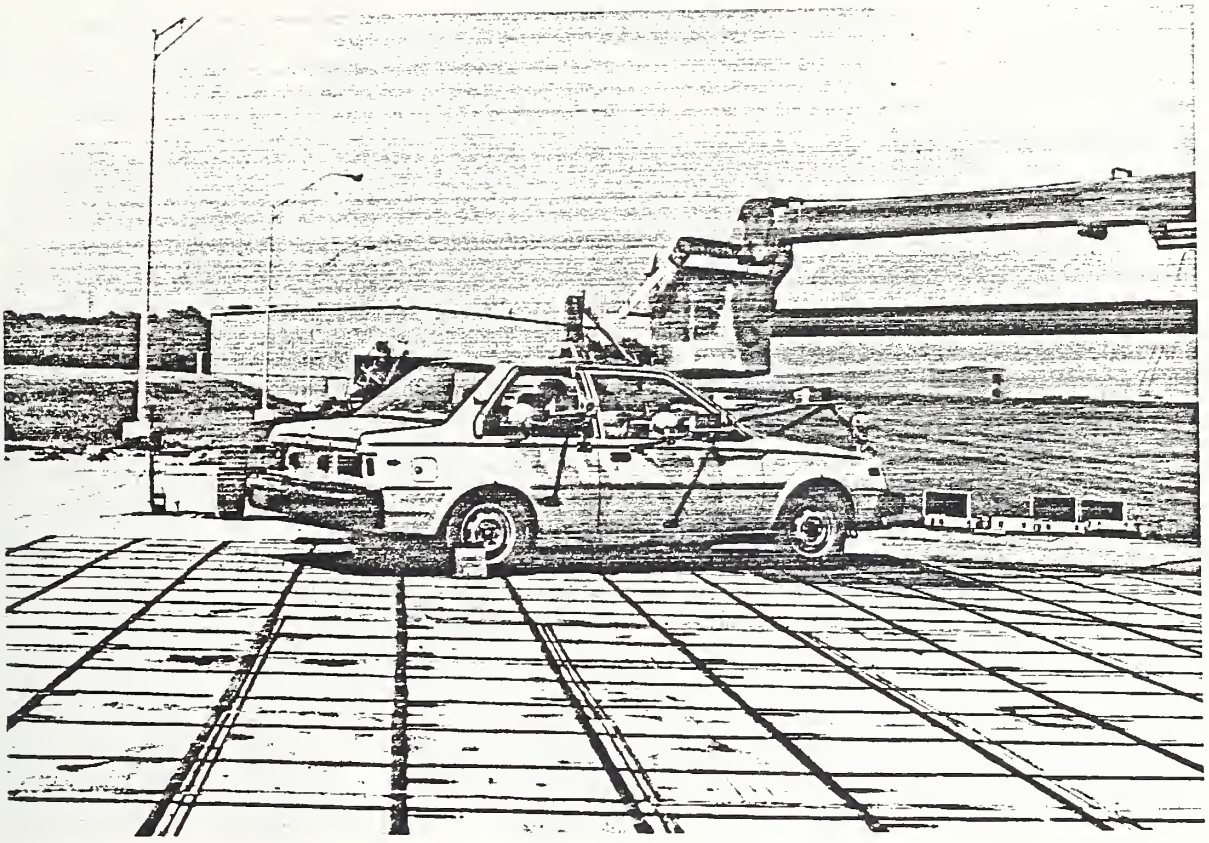


Figure A-3. PRE-TEST OVERALL - VIEW 3

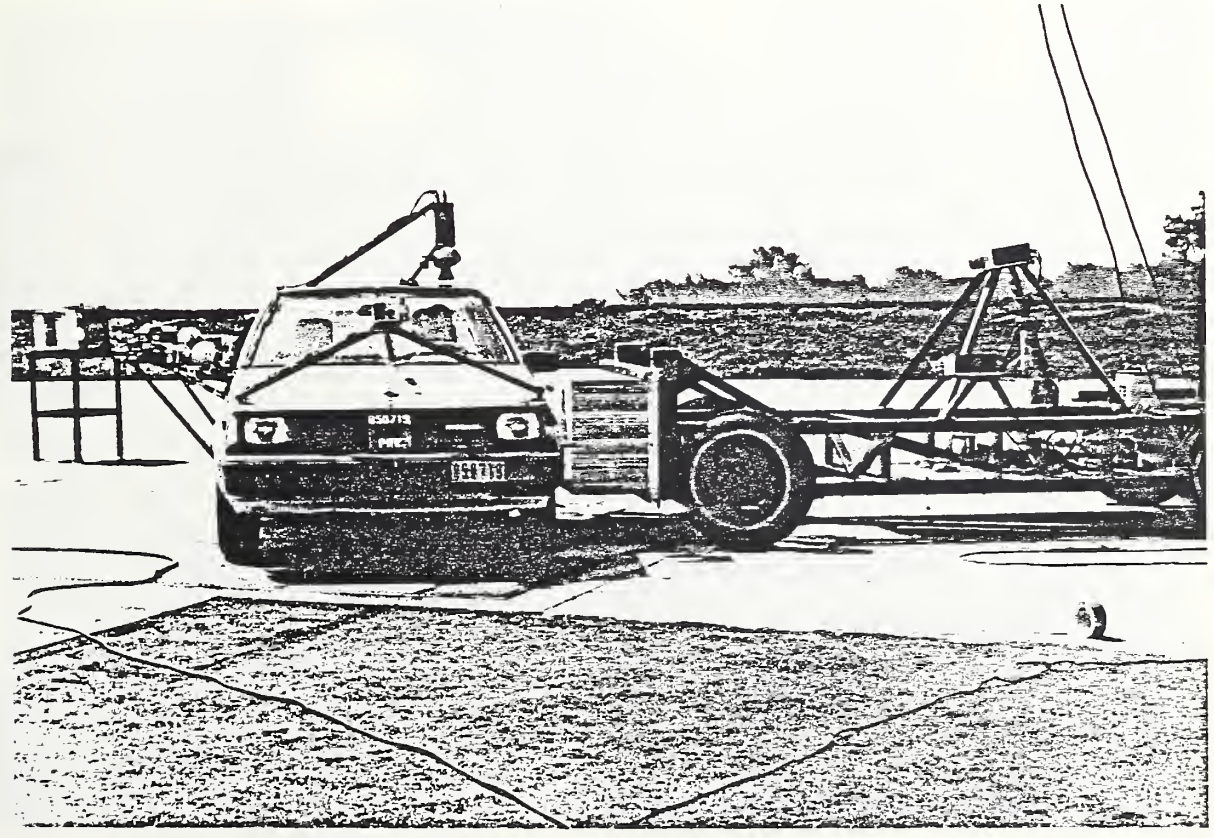


Figure A-4. PRE-TEST OVERALL - VIEW 4

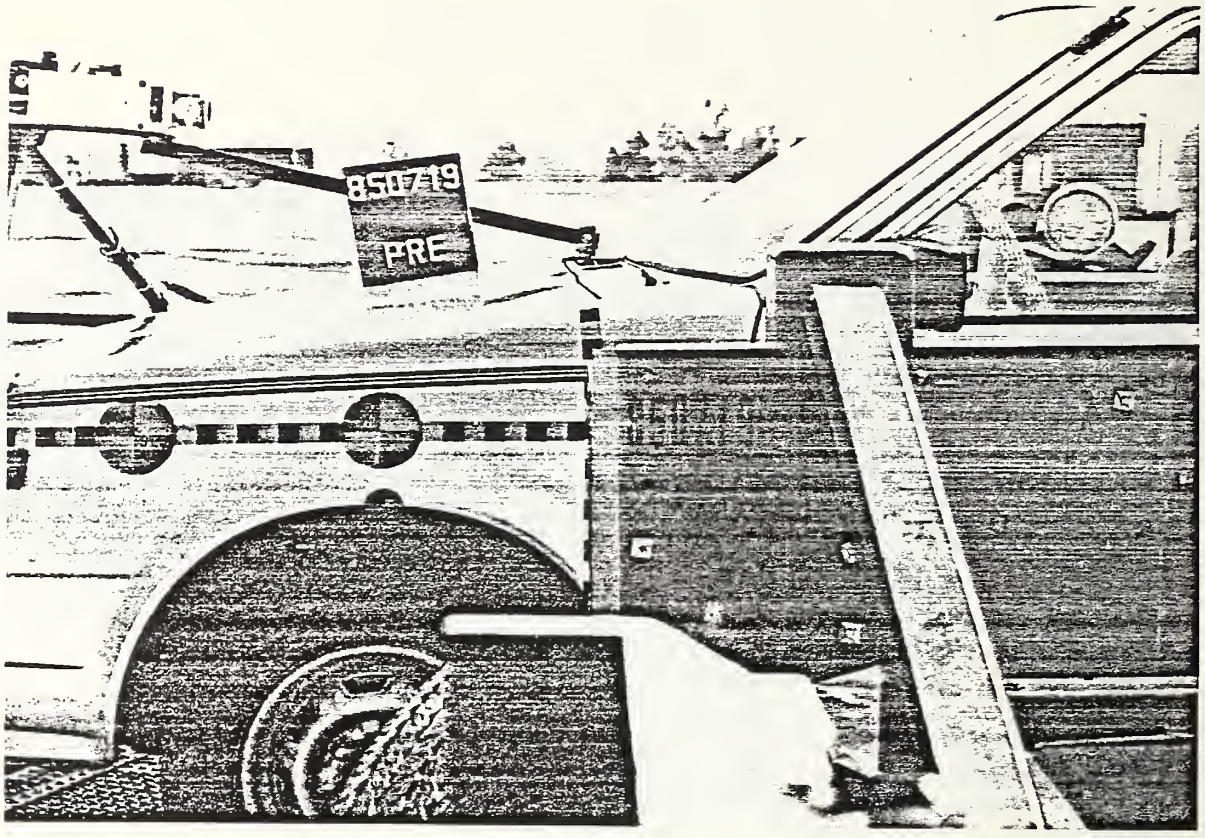


Figure A-5. PRE-TEST CLOSEUP - VIEW 1

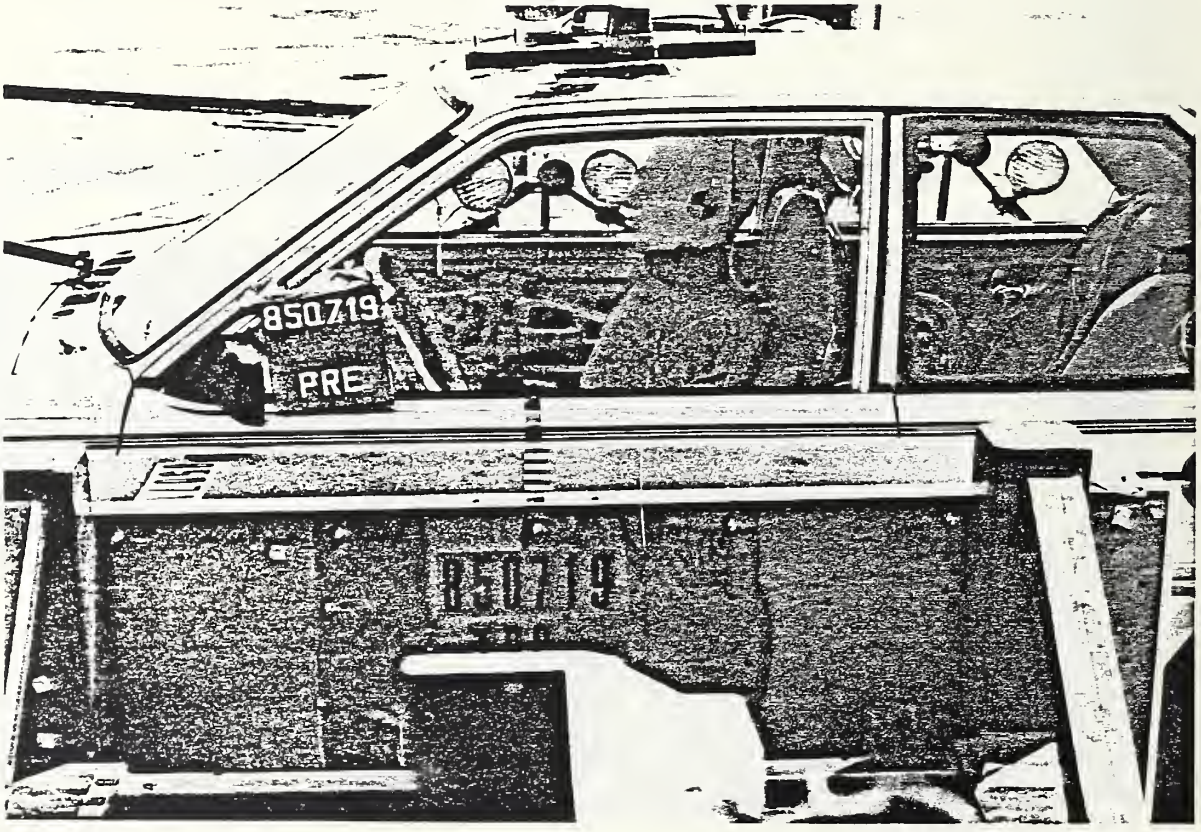


Figure A-6. PRE-TEST CLOSEUP - VIEW 2

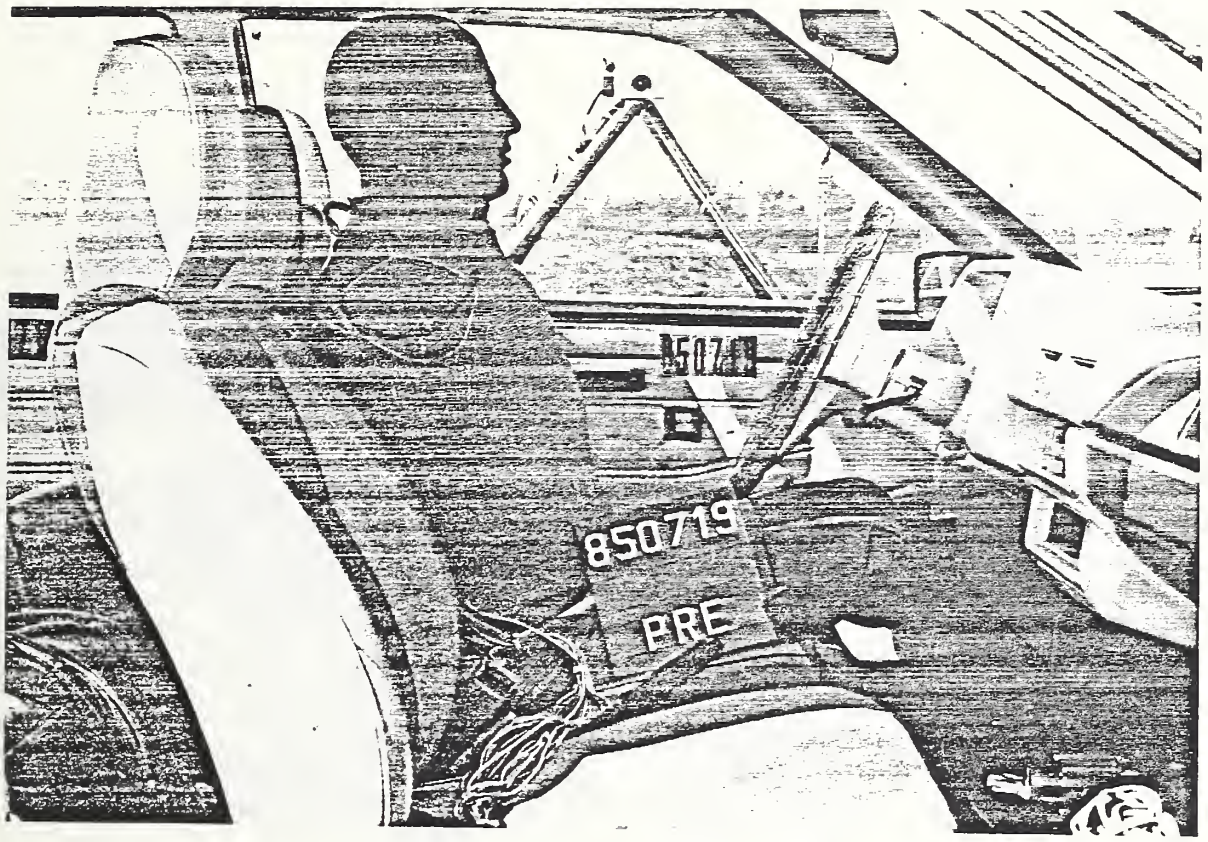


Figure A-7. PRE-TEST DRIVER DUMMY VIEW

Figure A-8. PRE-TEST PASSENGER DUMMY VIEW

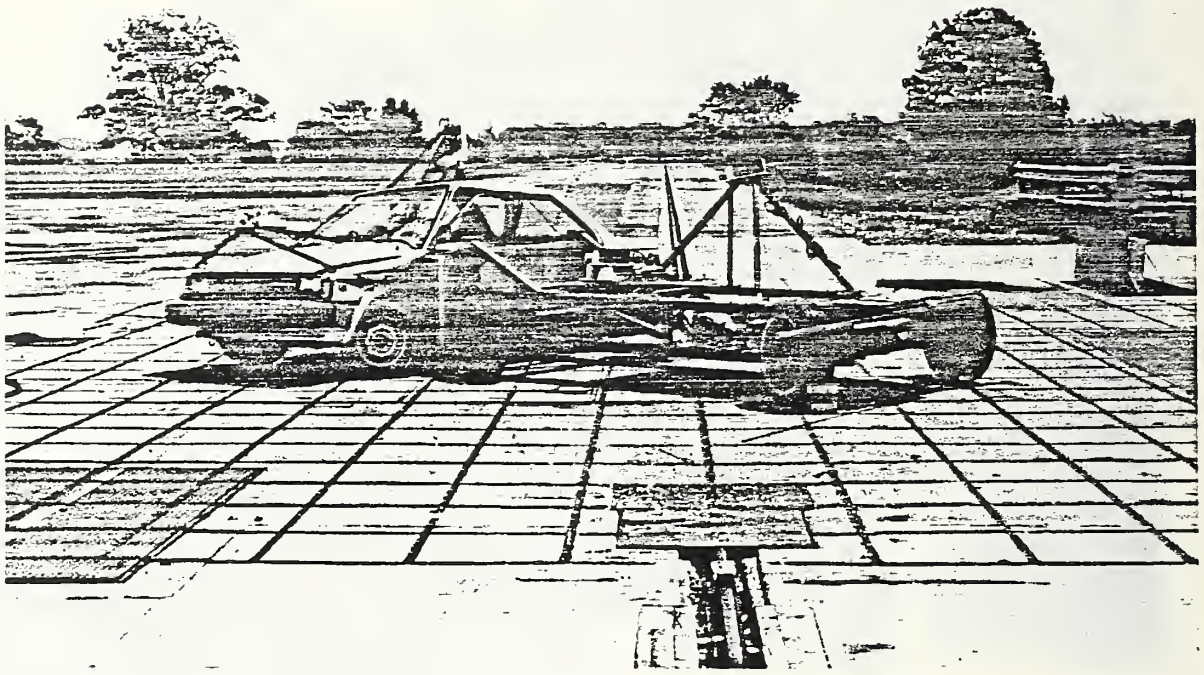


Figure A-9. POST-TEST OVERALL - VIEW 1

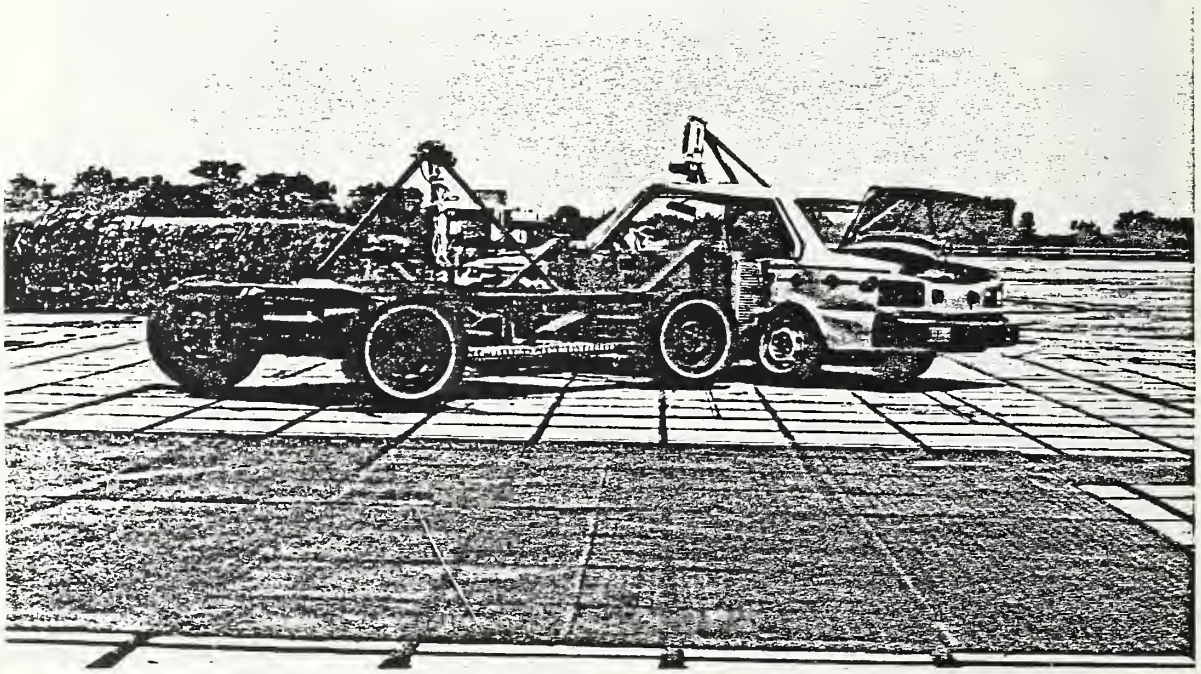


Figure A-10. POST-TEST OVERALL - VIEW 2

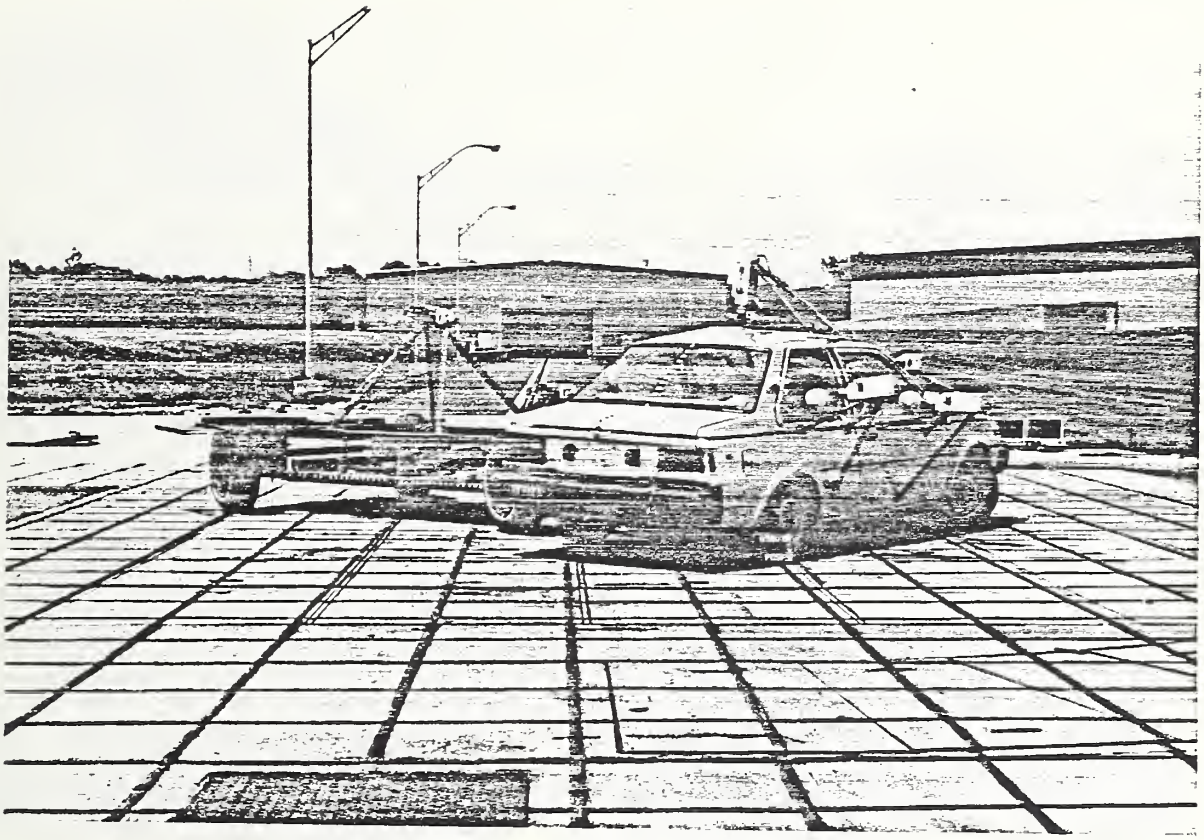


Figure A-11. POST-TEST OVERALL - VIEW 3

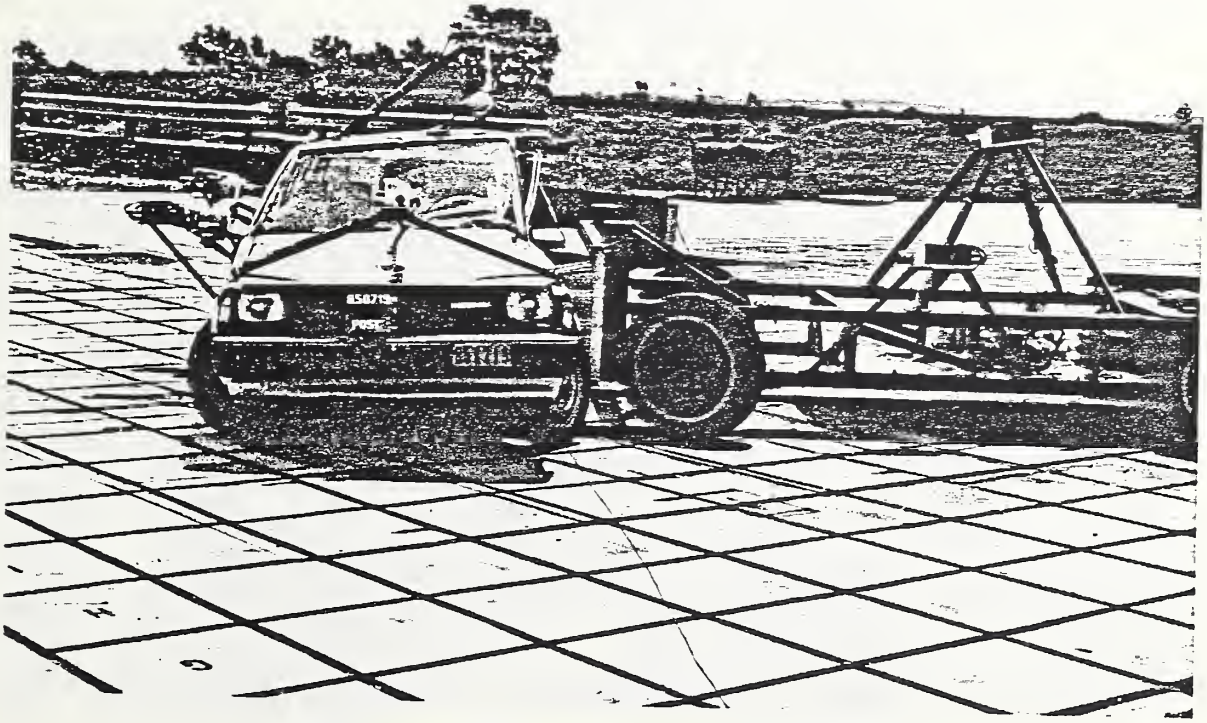


Figure A-12. POST-TEST OVERALL - VIEW 4

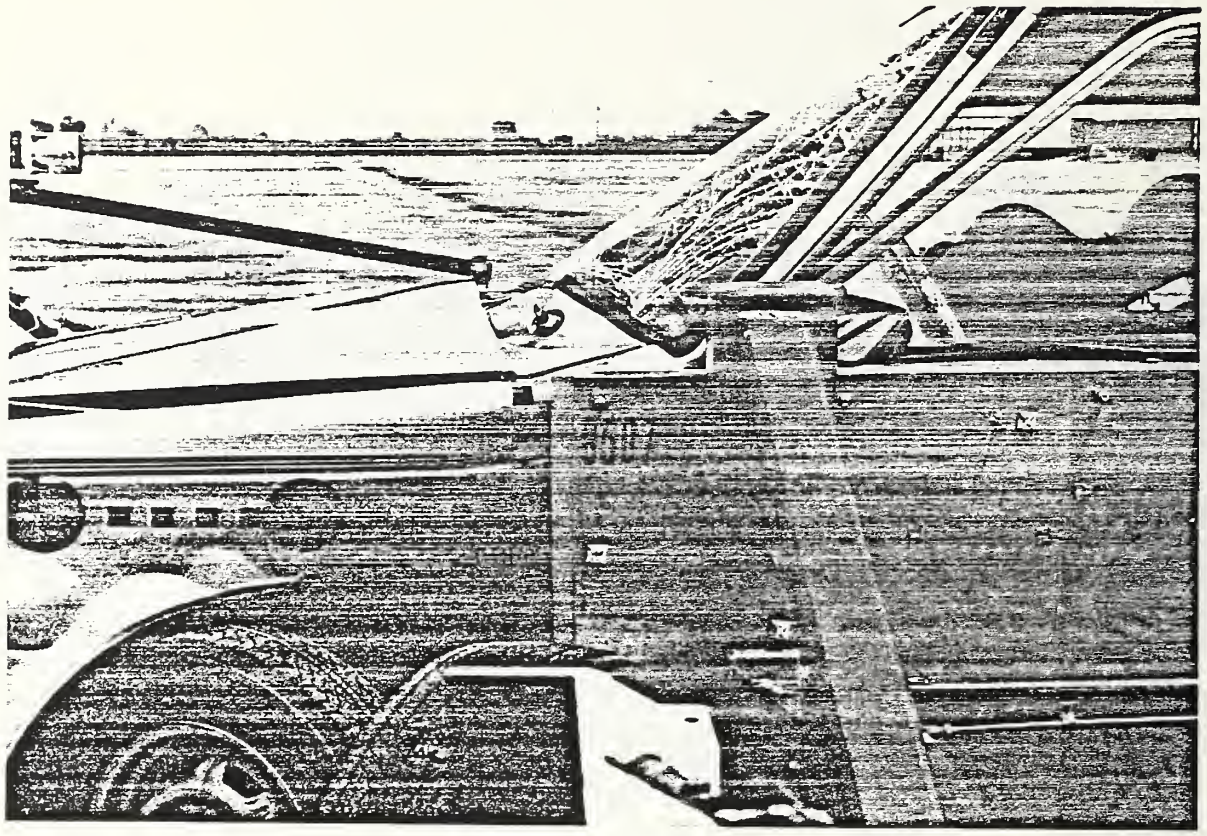


Figure A-13. POST-TEST CLOSEUP - VIEW 1

Figure A-14. POST-TEST CLOSEUP - VIEW 2

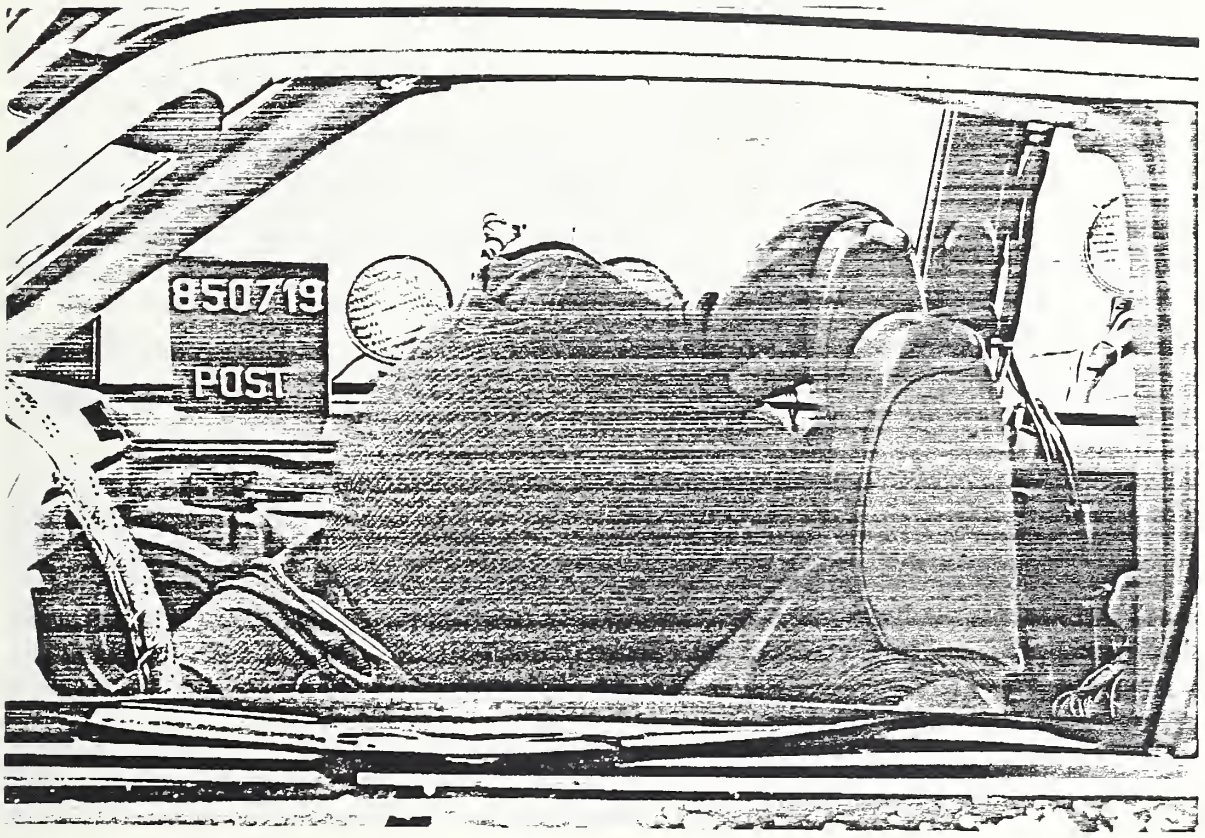


Figure A-15. POST-TEST DRIVER DUMMY VIEW

Figure A-16. POST-TEST PASSENGER DUMMY VIEW

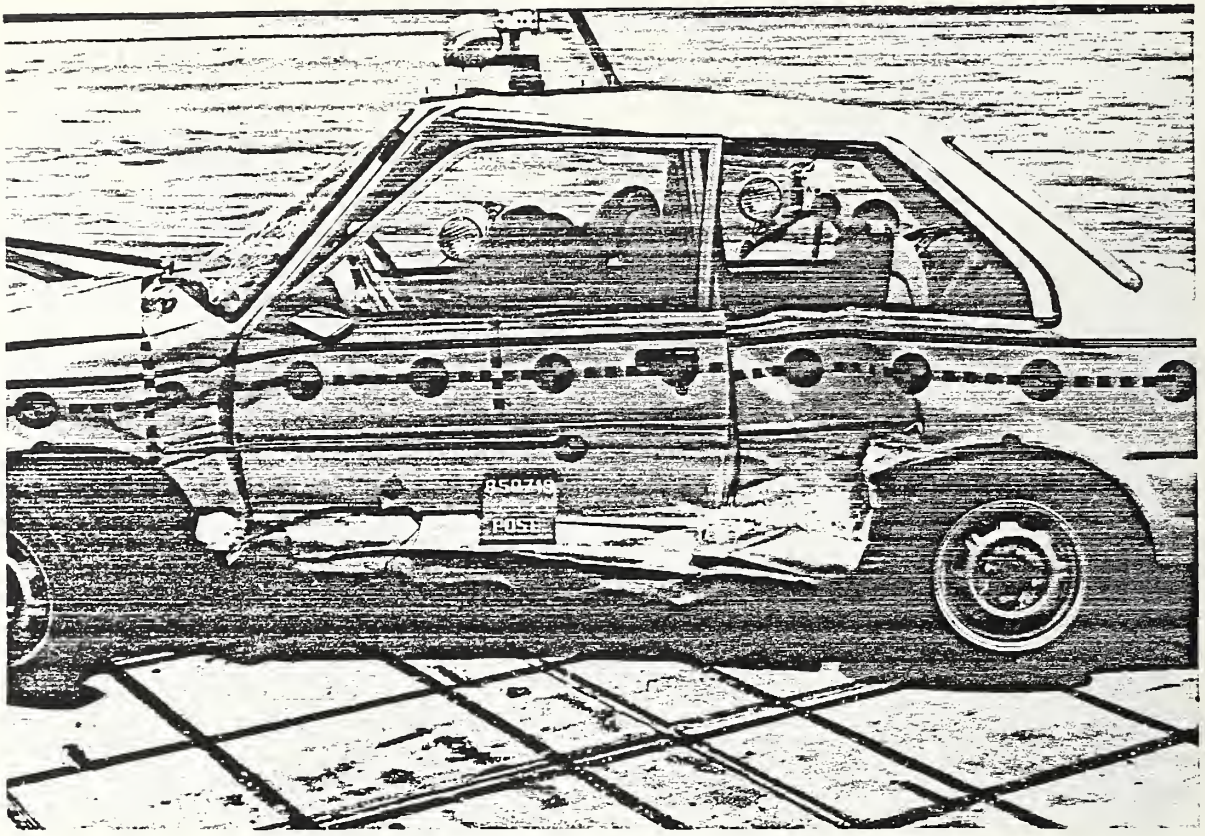


Figure A-17. POST-TEST VEHICLE DAMAGE - VIEW 1

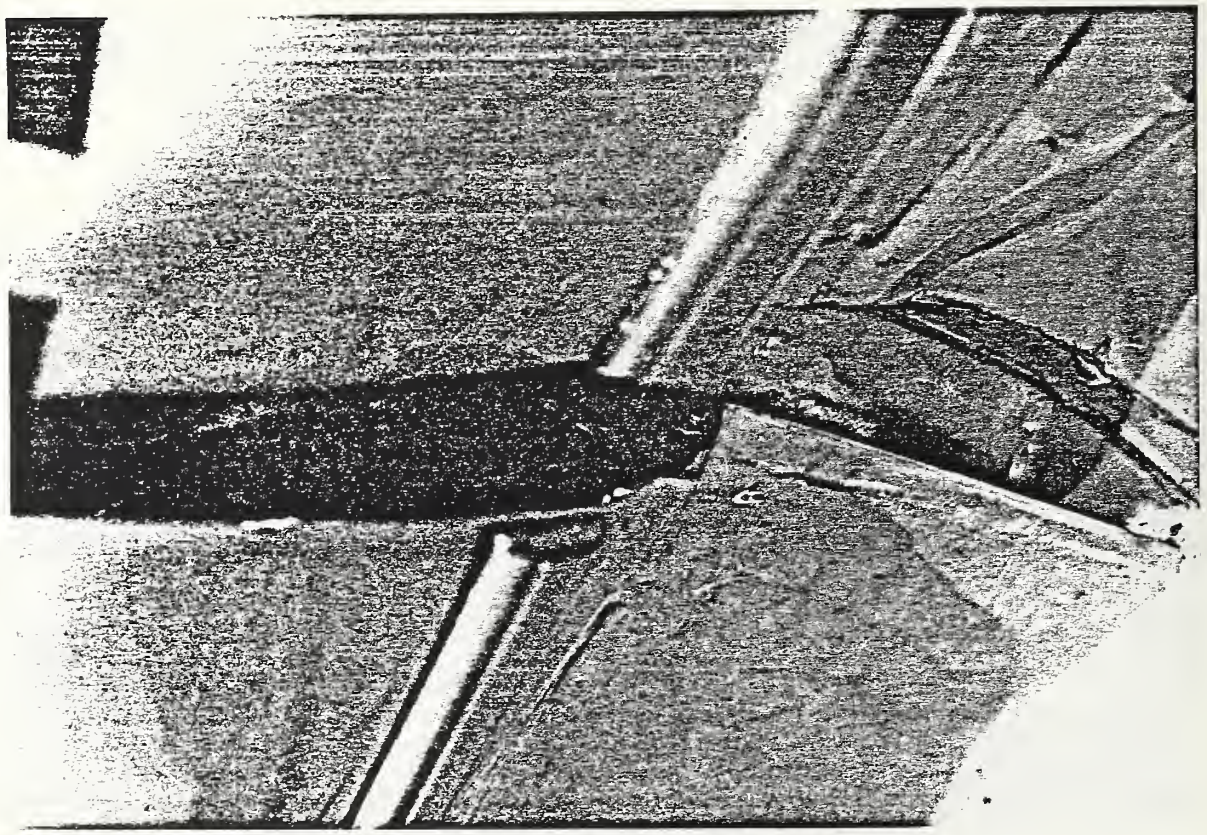


Figure A-18. POST-TEST VEHICLE DAMAGE - VIEW 2

Figure A-19. POST-TEST VEHICLE DAMAGE - VIEW 3

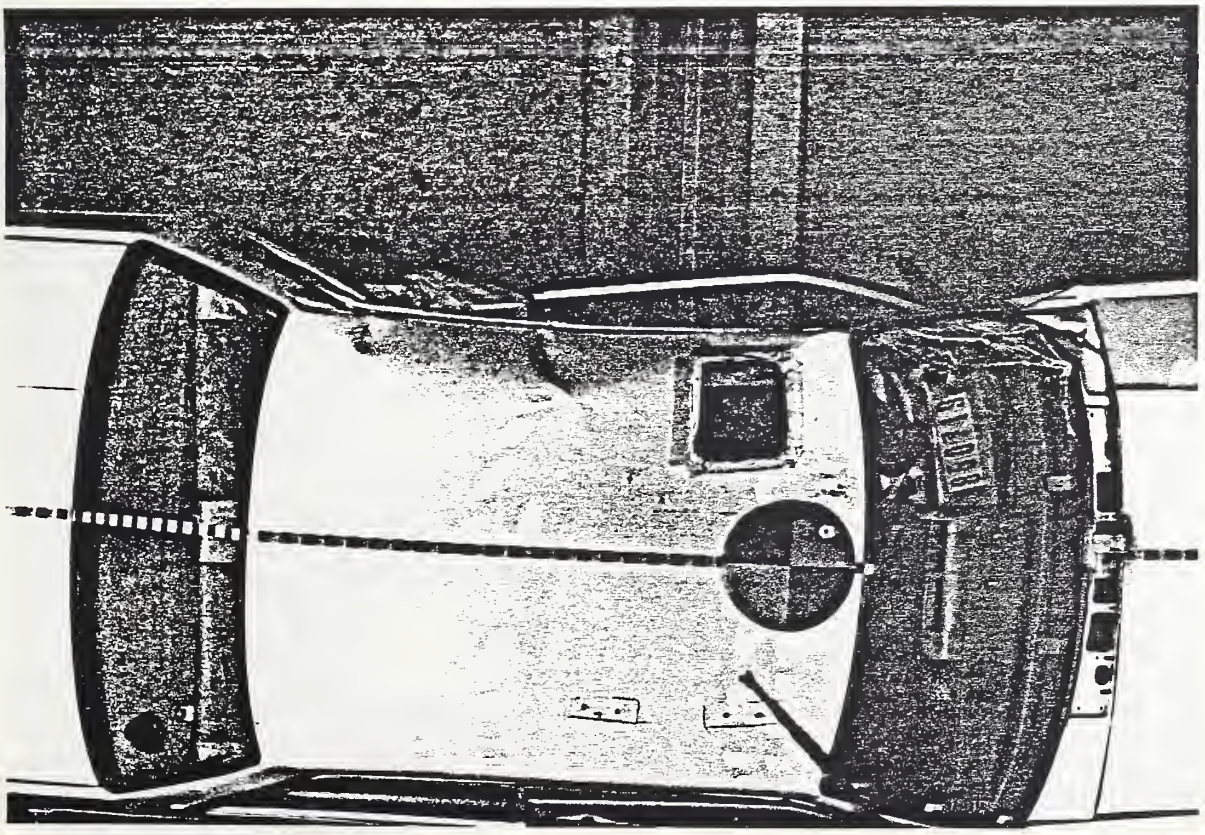


Figure A-20. POST-TEST OVERHEAD VIEW

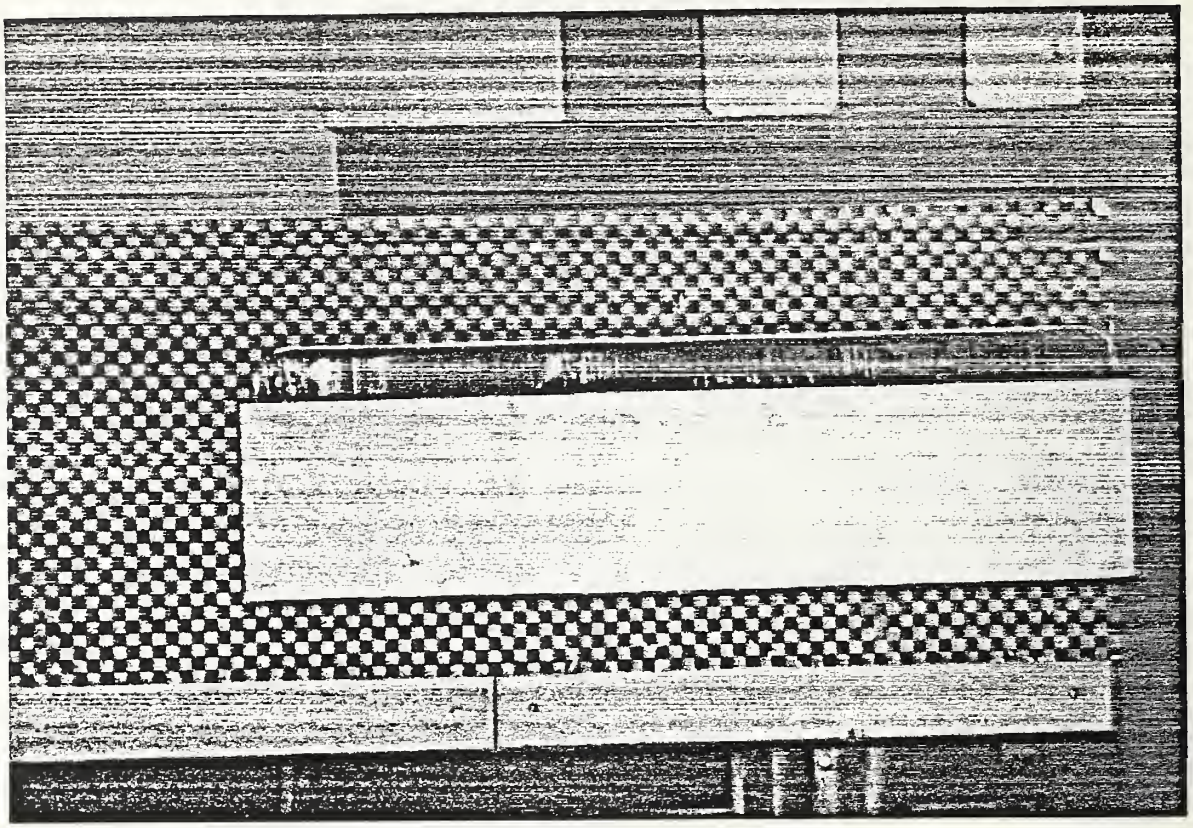


Figure A-21. PRE-TEST MDB FACE - VIEW 1

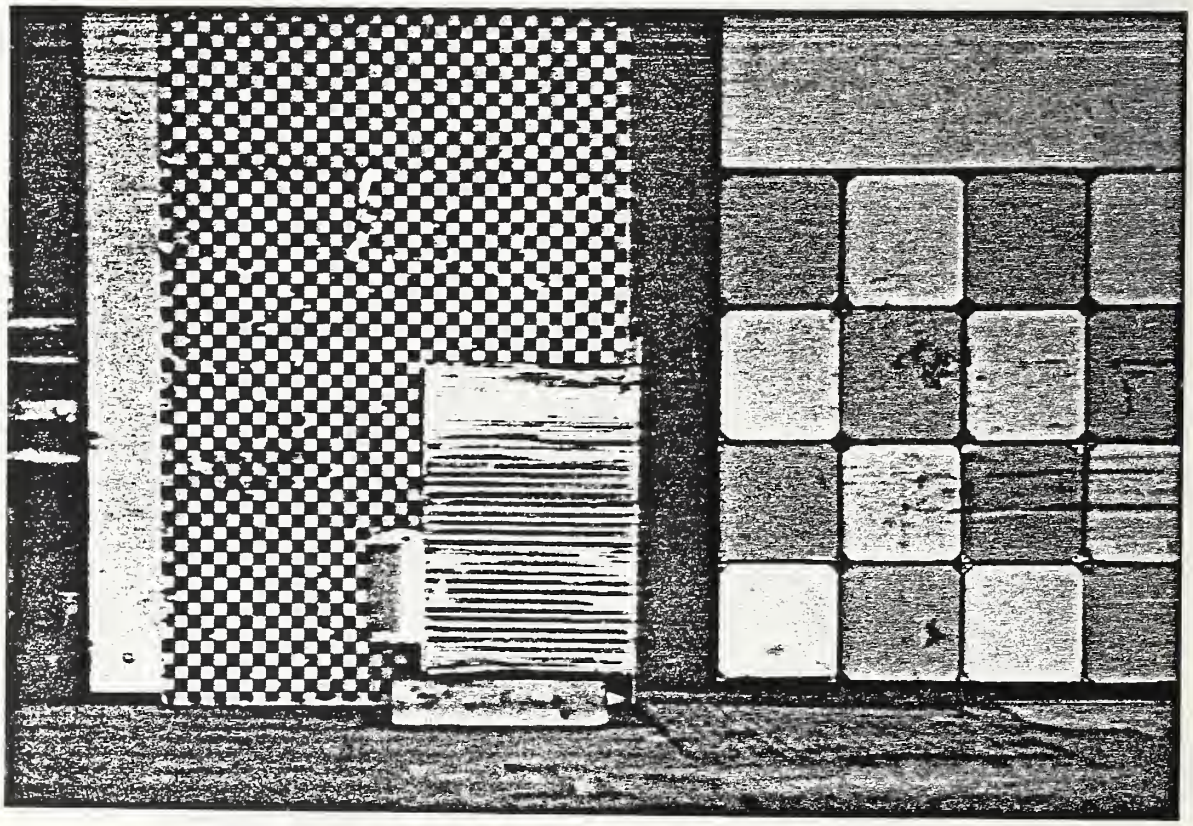


Figure A-22. PRE-TEST MDB FACE - VIEW 2

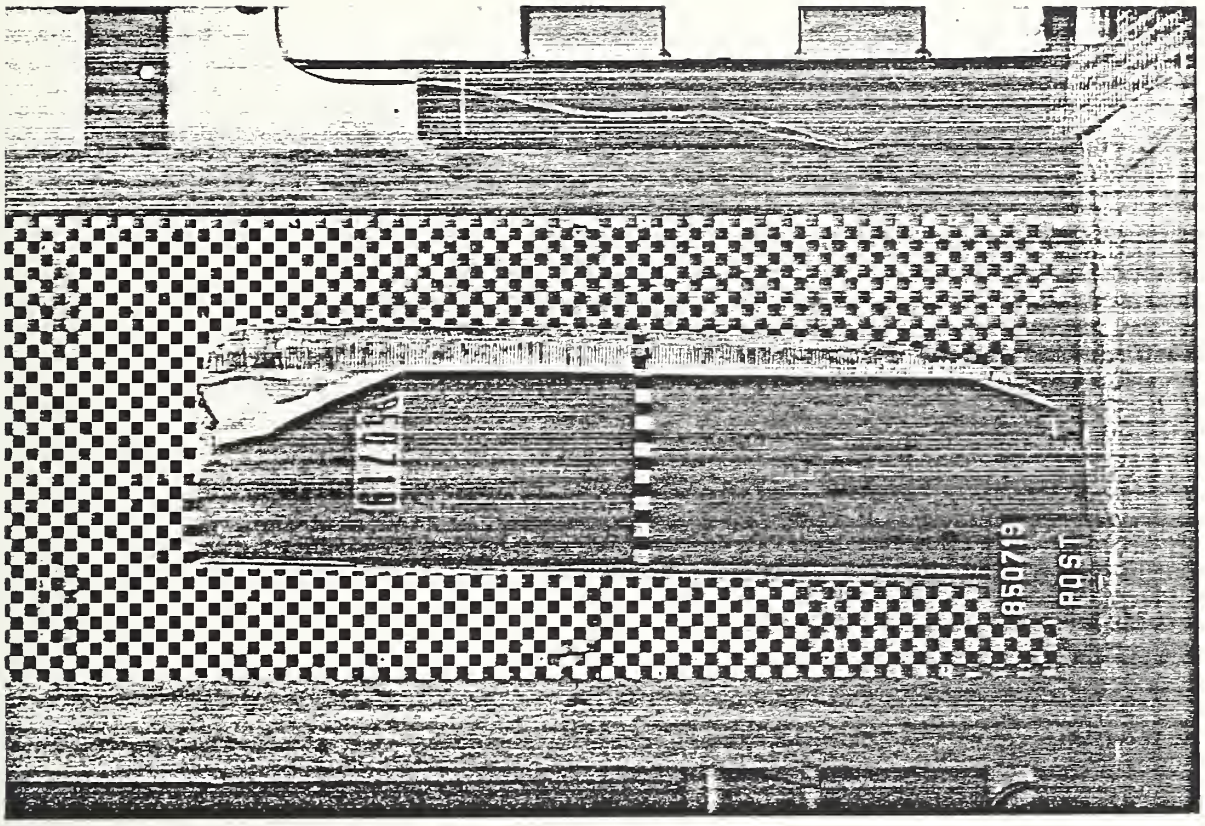


Figure A-23. POST-TEST MDB FACE - VIEW 1

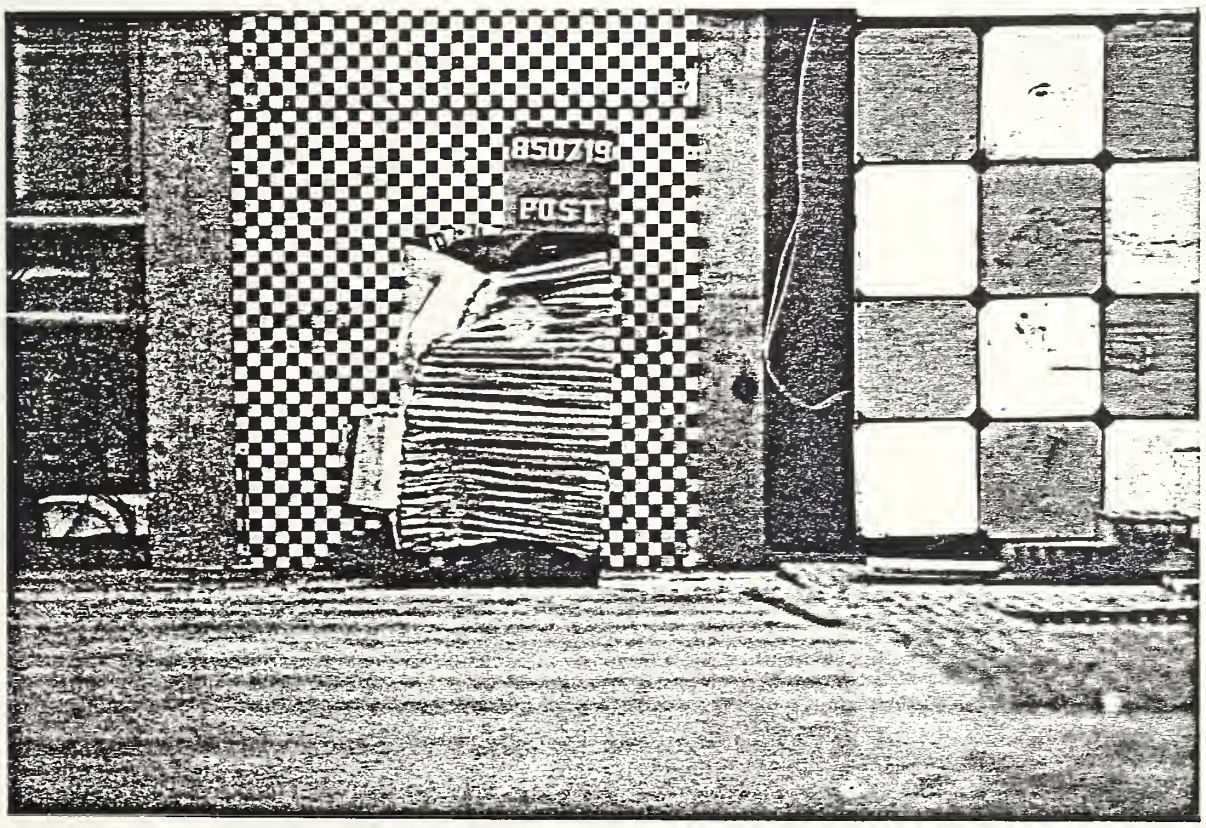
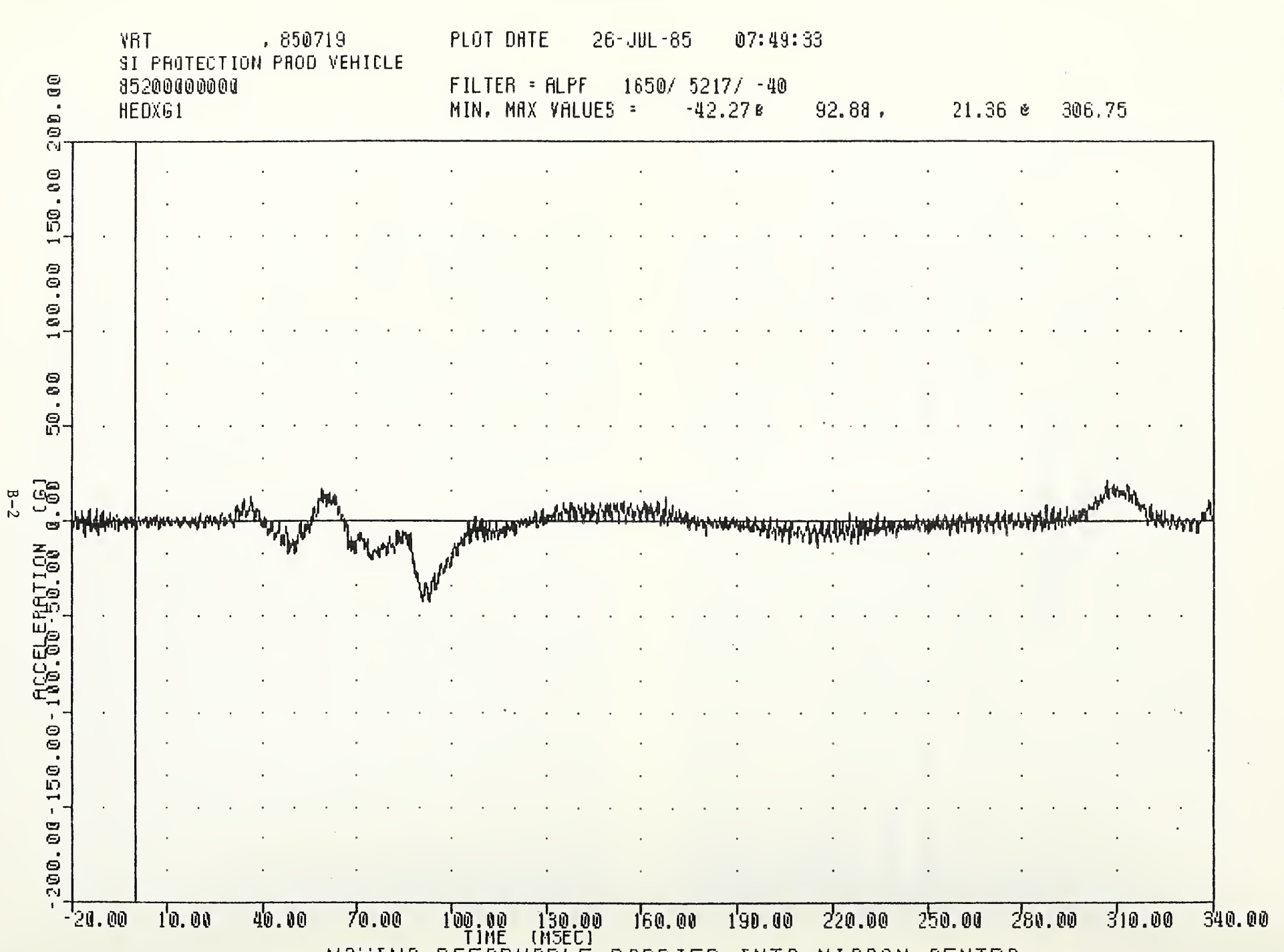


Figure A-24. POST-TEST MDB FACE - VIEW 2

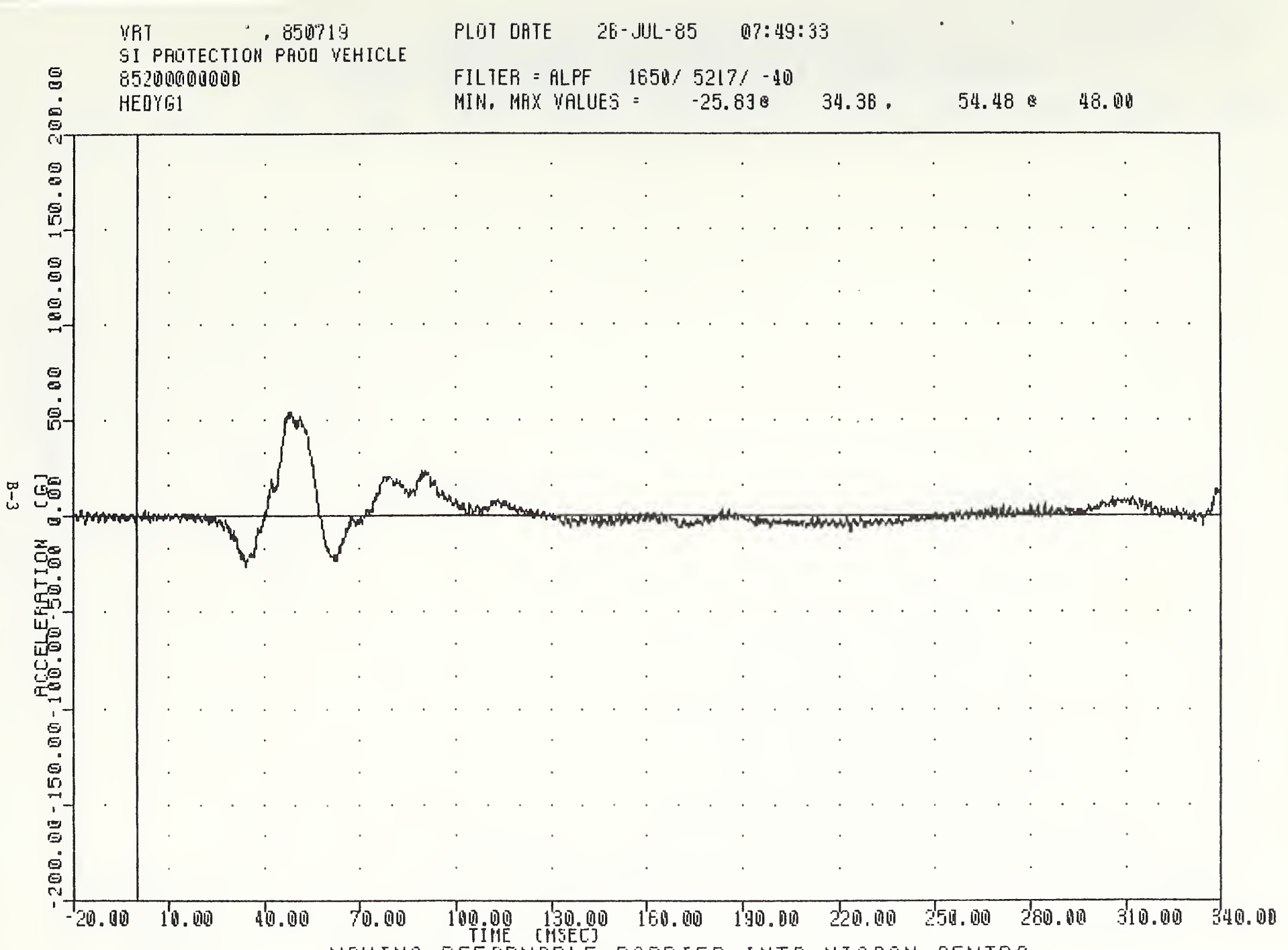
APPENDIX B

DATA PLOT PRESENTATION

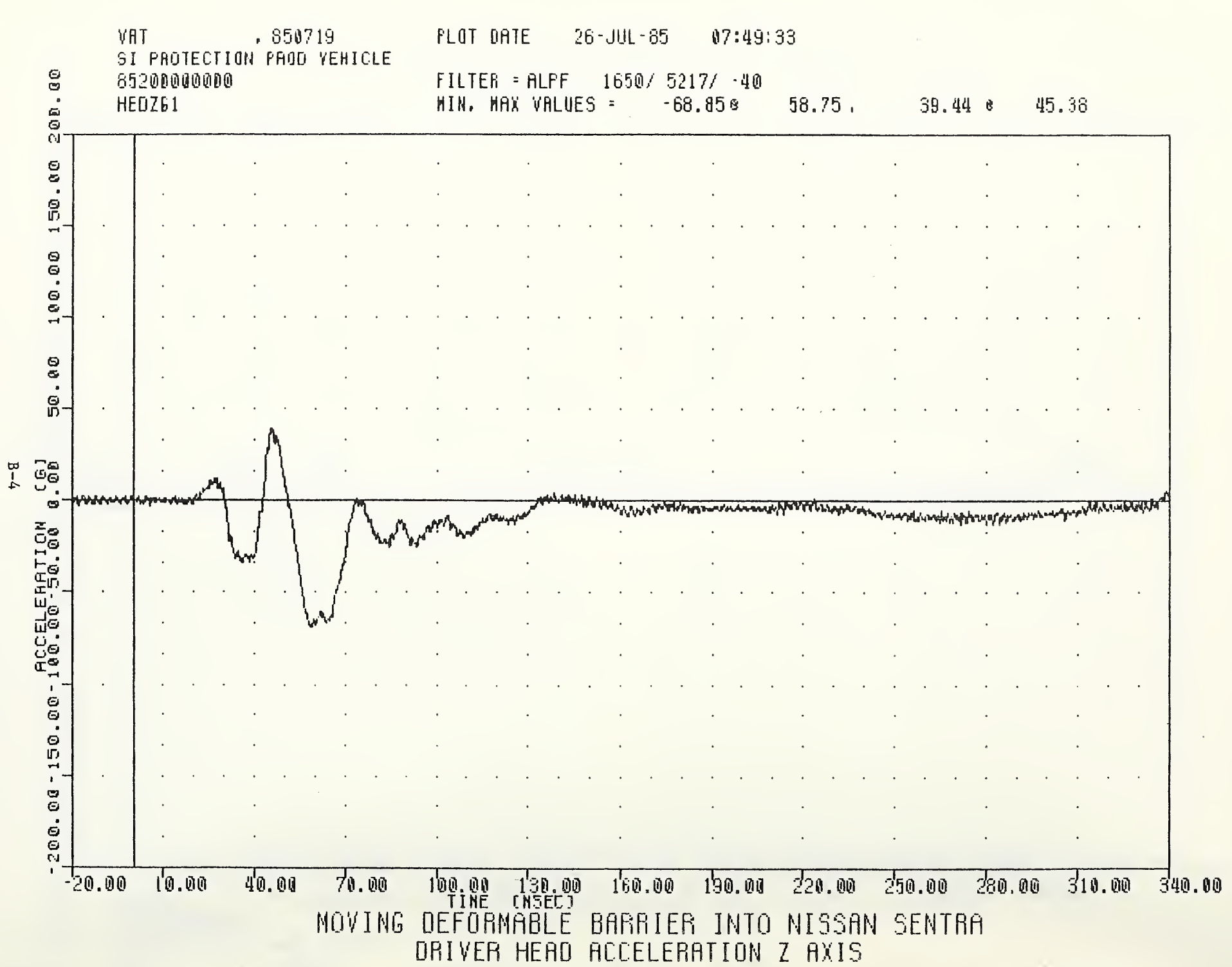
Data plots generated from the crash test data are presented on the following pages. All data are recorded on magnetic tape for inclusion in the NHTSA crash test data base system. All data were filtered according to SAE J211, except that dummy thorax data were filtered using the HSRI filter.

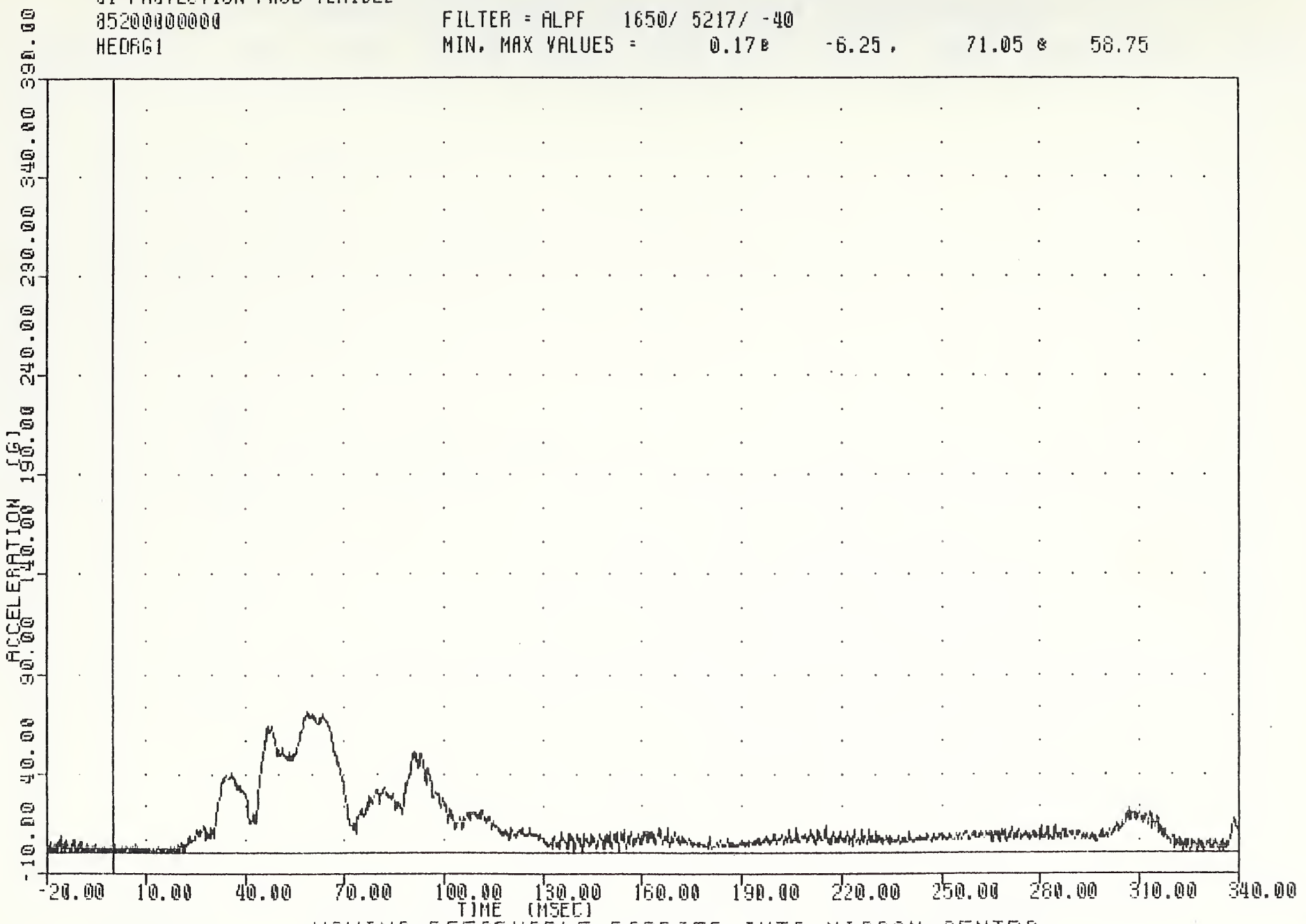


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER HEAD ACCELERATION X AXIS

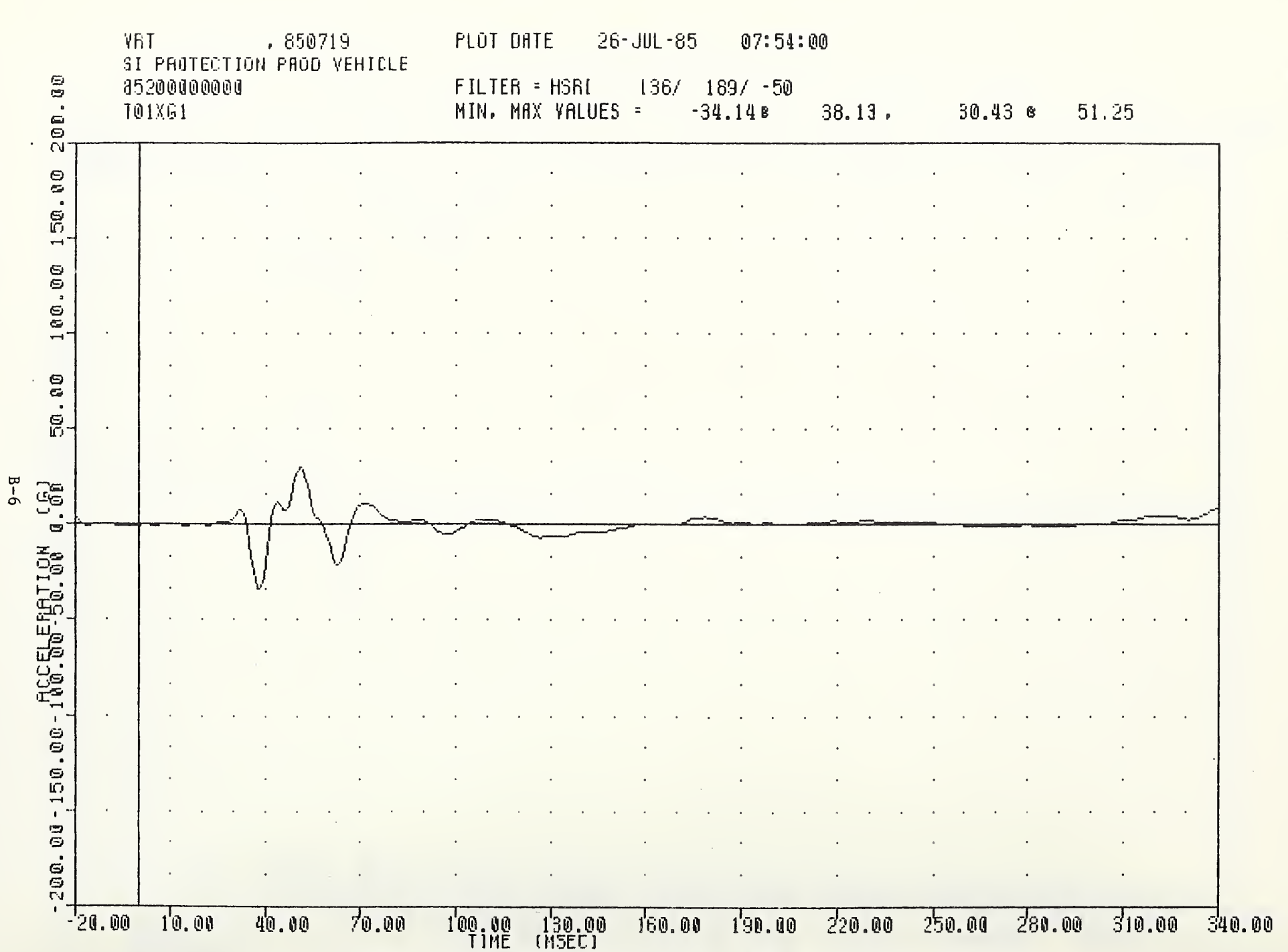


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER HEAD ACCELERATION Y AXIS

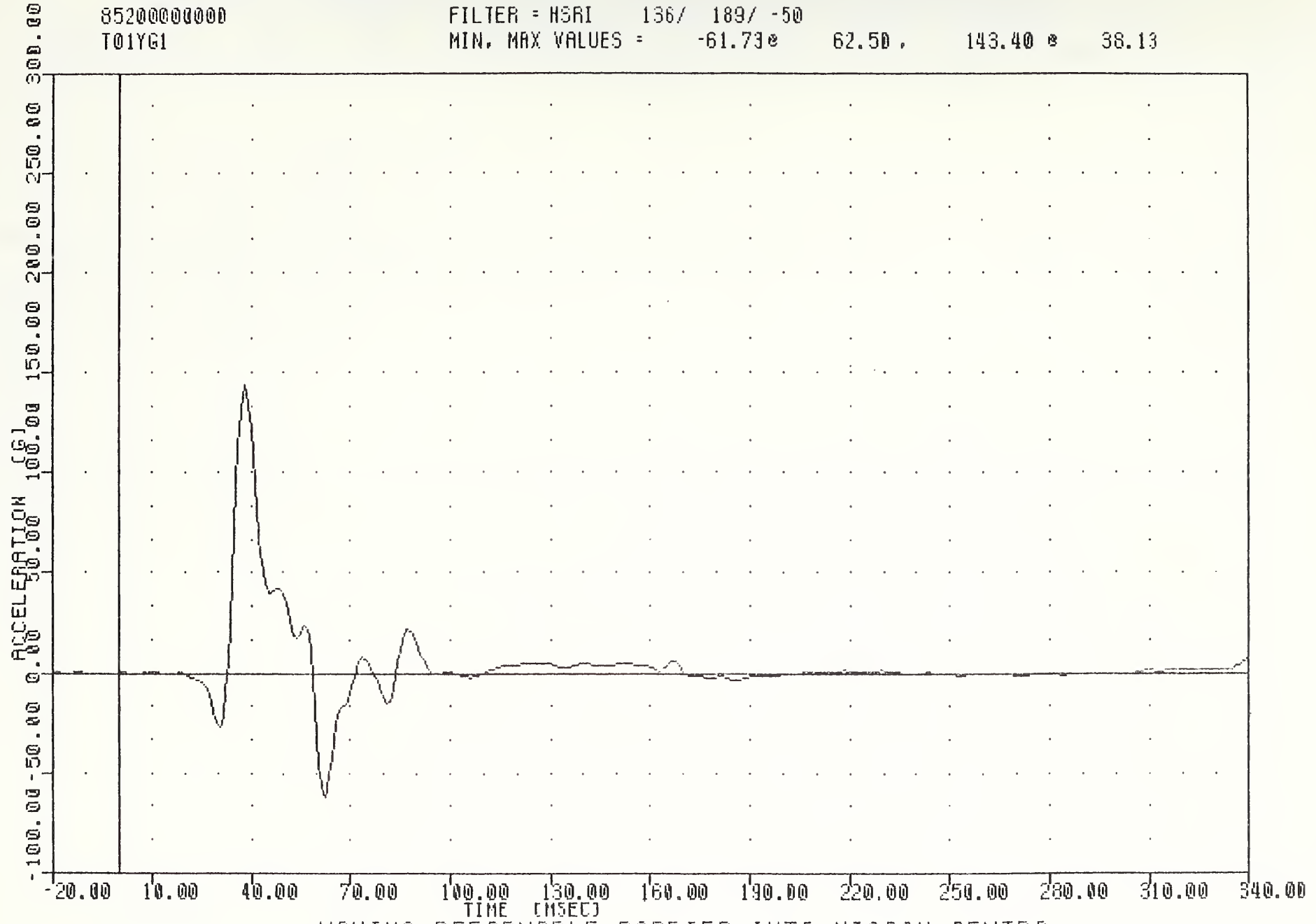

VAT , 850719
PLOT DATE 26-JUL-85 07:49:33
SI PROTECTION PAOD VEHICLE
85200000000
FILTER = ALPF 1650/ 5217/ .40
HEDZ61
MIN, MAX VALUES = -68.85 @ 58.75 , 39.44 @ 45.38
ACCELERATION (G)
200.00
150.00
100.00
50.00
0.00
-50.00
-100.00
-150.00
-200.00
-20.00
10.00
40.00
70.00
100.00
130.00
160.00
190.00
220.00
250.00
280.00
310.00
340.00
TIME (MSEC)
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER HEAD ACCELERATION Z AXIS



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER HEAD RESULTANT

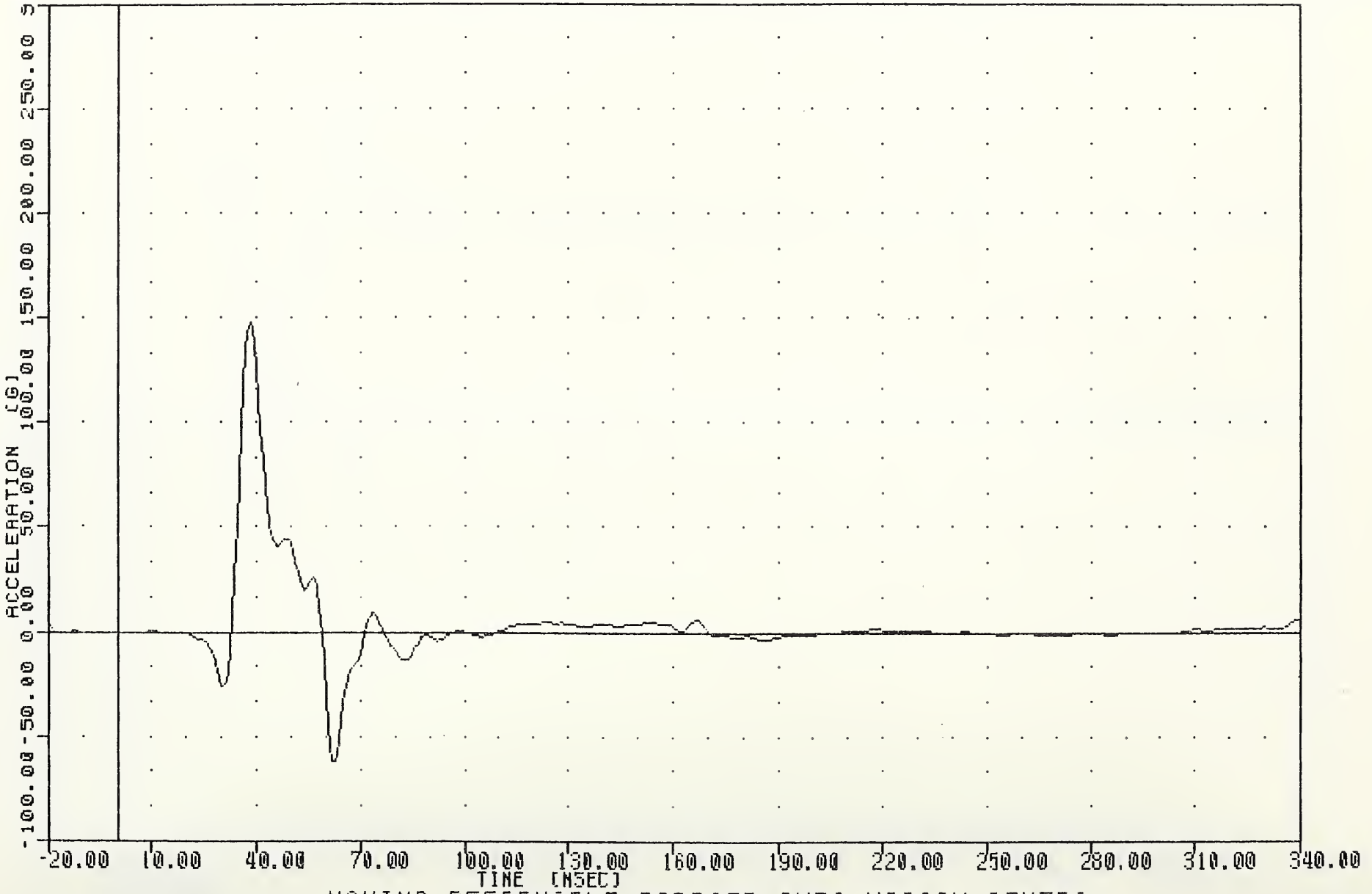


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER UPPER SPINE ACCELERATION X AXIS

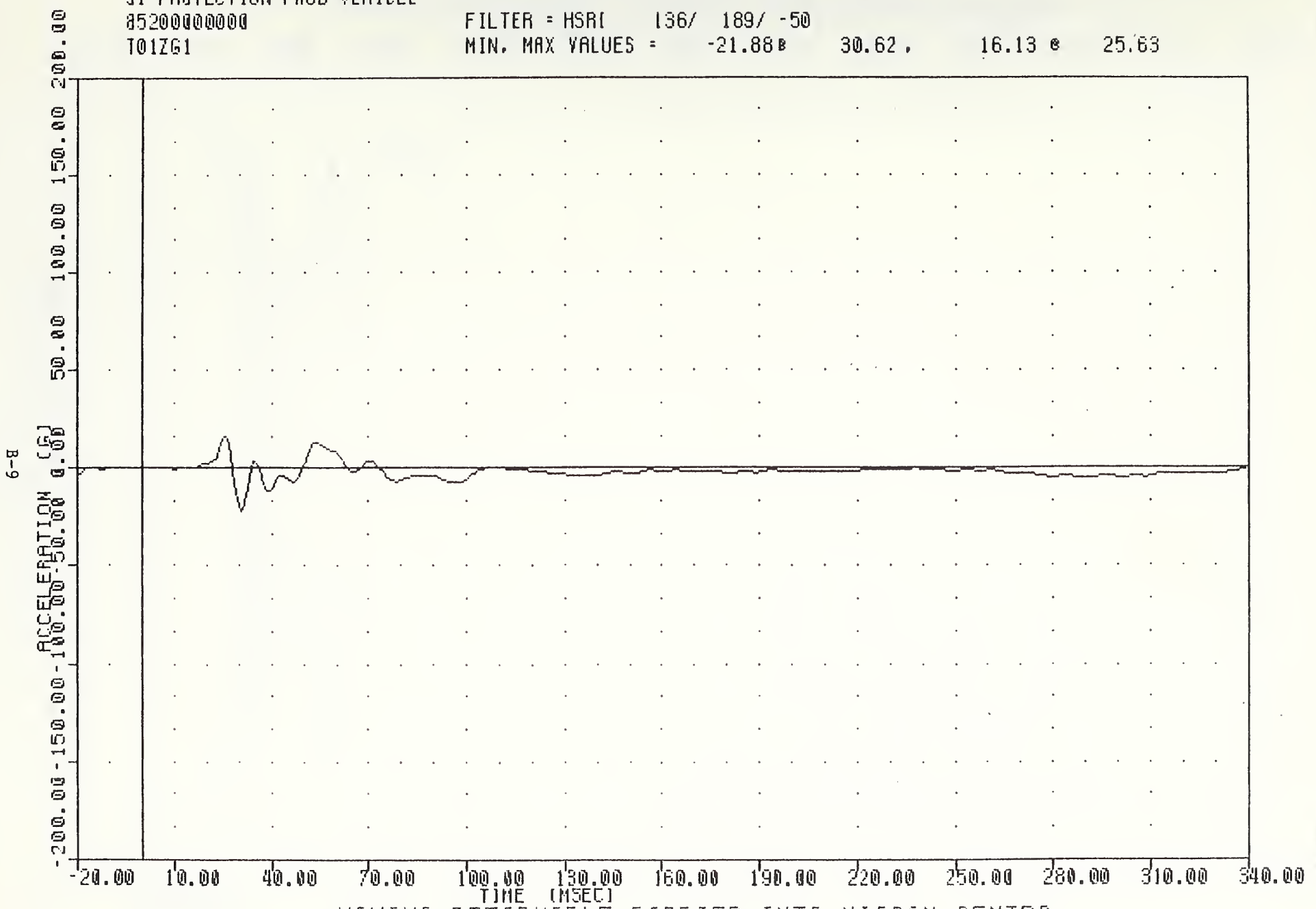


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER UPPER SPINE ACCELERATION Y AXIS

VAT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
85200000000 FILTER = HSRI 136/ 189/ -50
T01Y6A MIN, MAX VALUES = -62.38 @ 62.50 , 147.49 @ 38.13

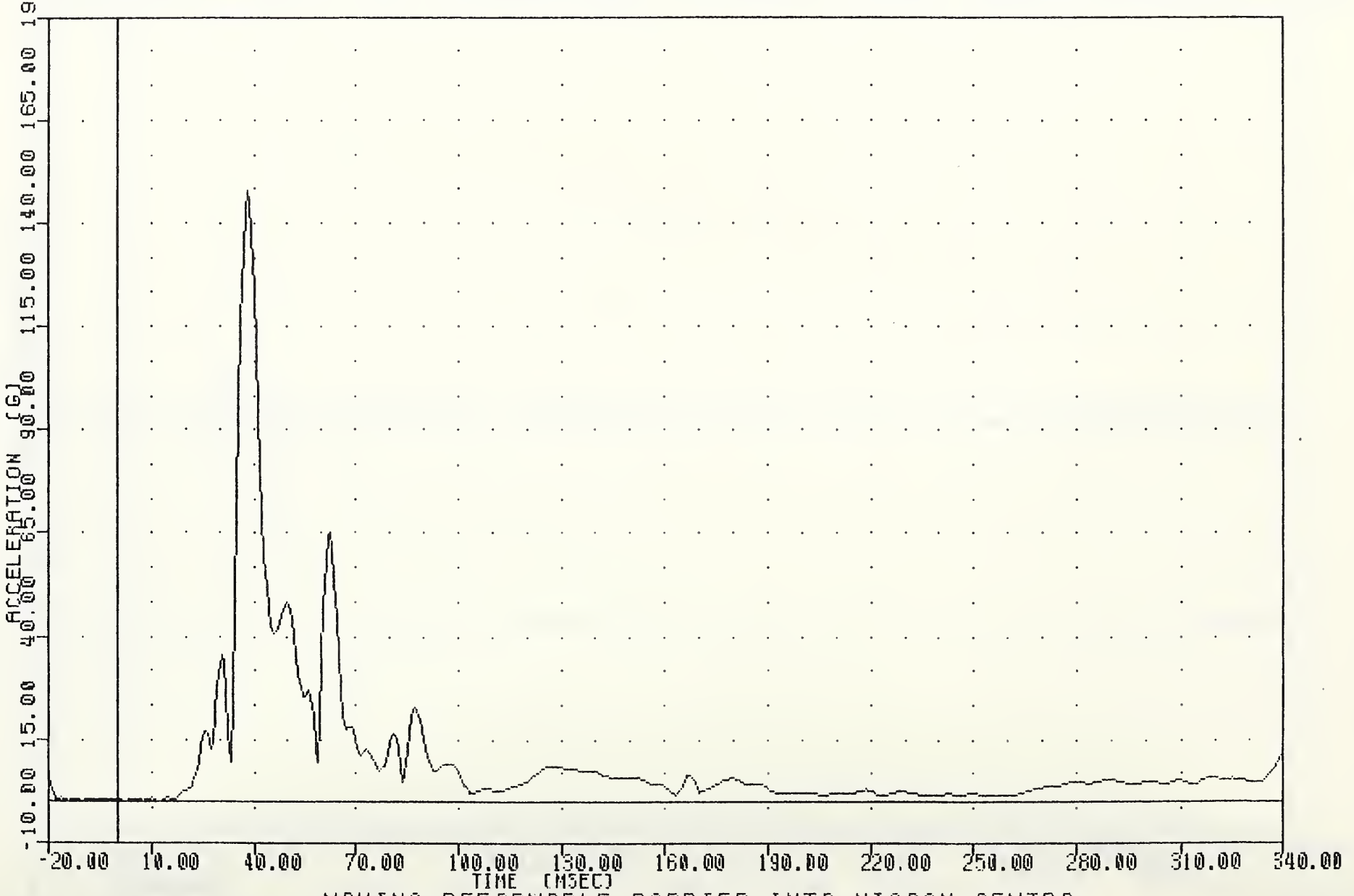


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER UPPER SPINE ACCELERATION -2 Y AXIS

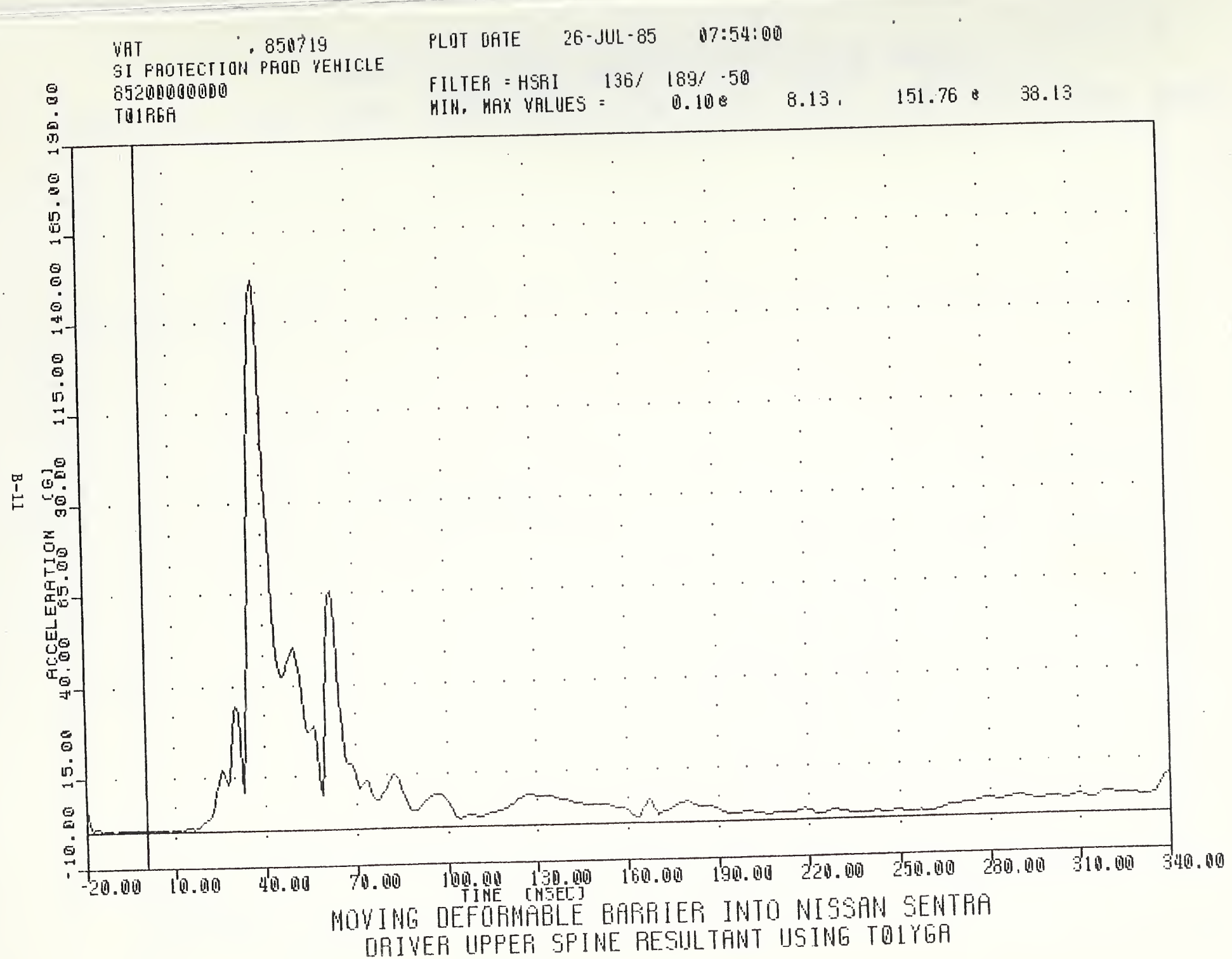


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER UPPER SPINE ACCELERATION Z AXIS

VRT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
85200000000 FILTER = HSRI 136/ 189/ -50
T01RG1 MIN, MAX VALUES = 0.06@ -14.37 , 147.80 @ 38.13

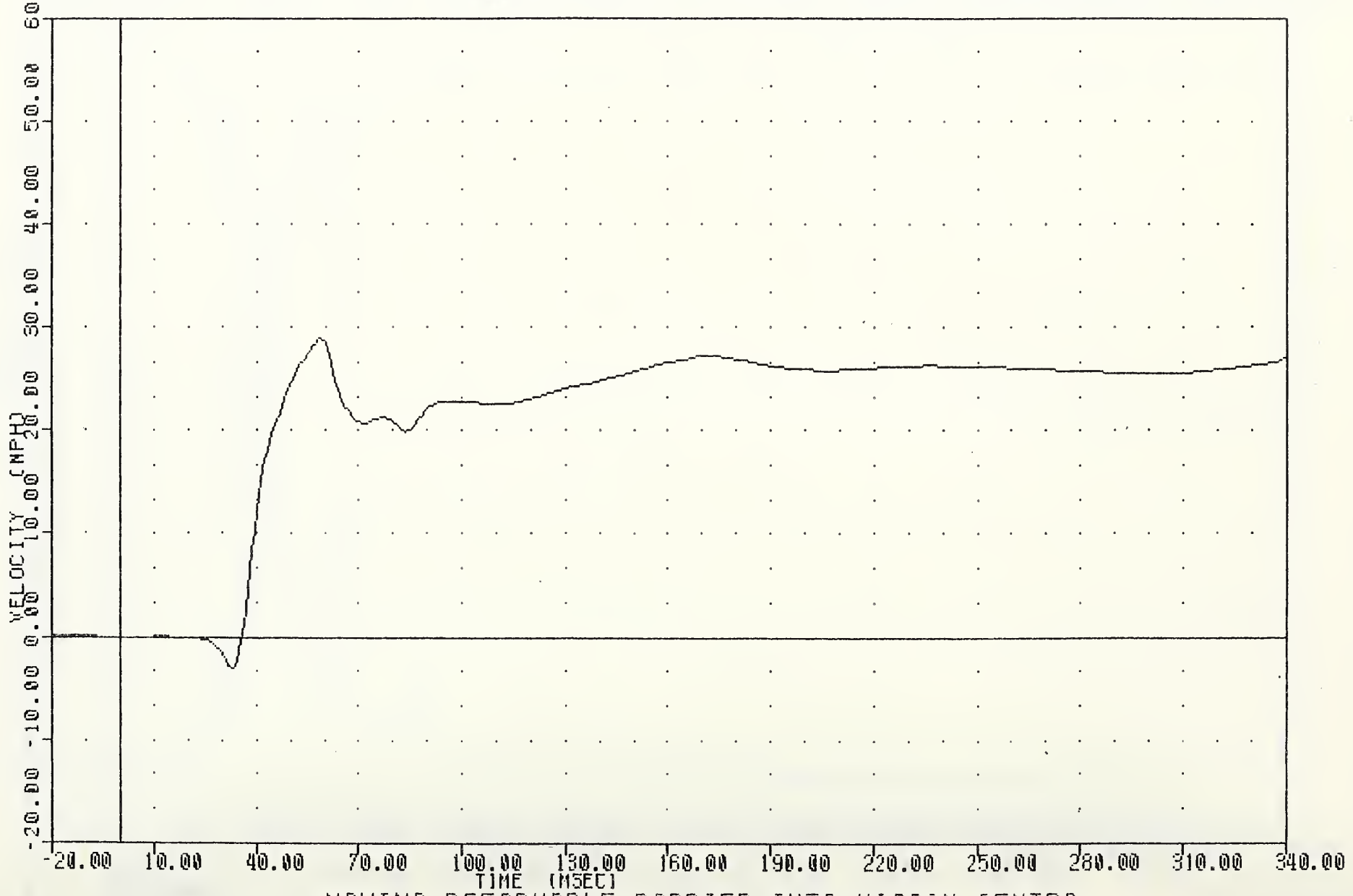


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER UPPER SPINE RESULTANT

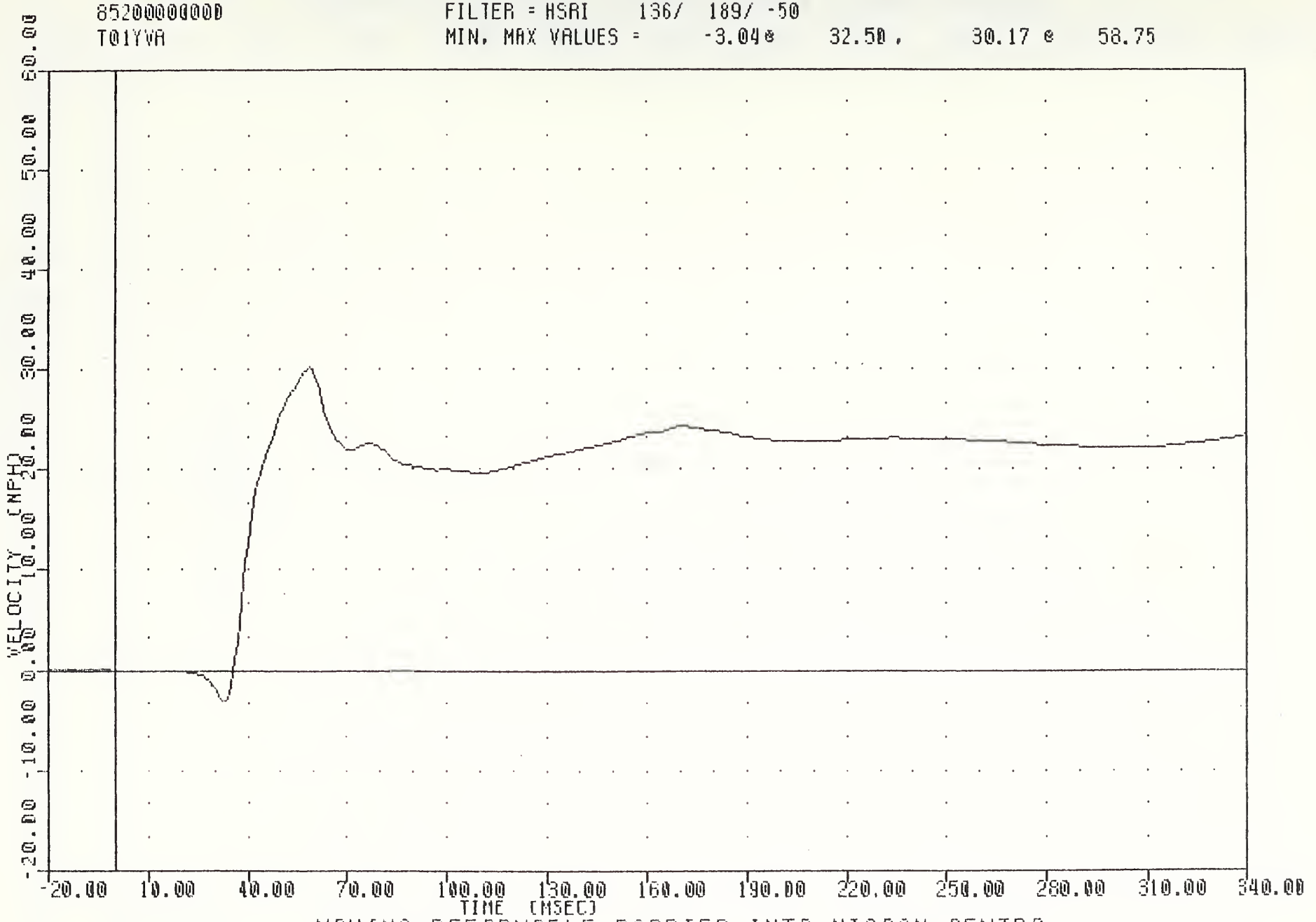


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER UPPER SPINE RESULTANT USING T01YGA

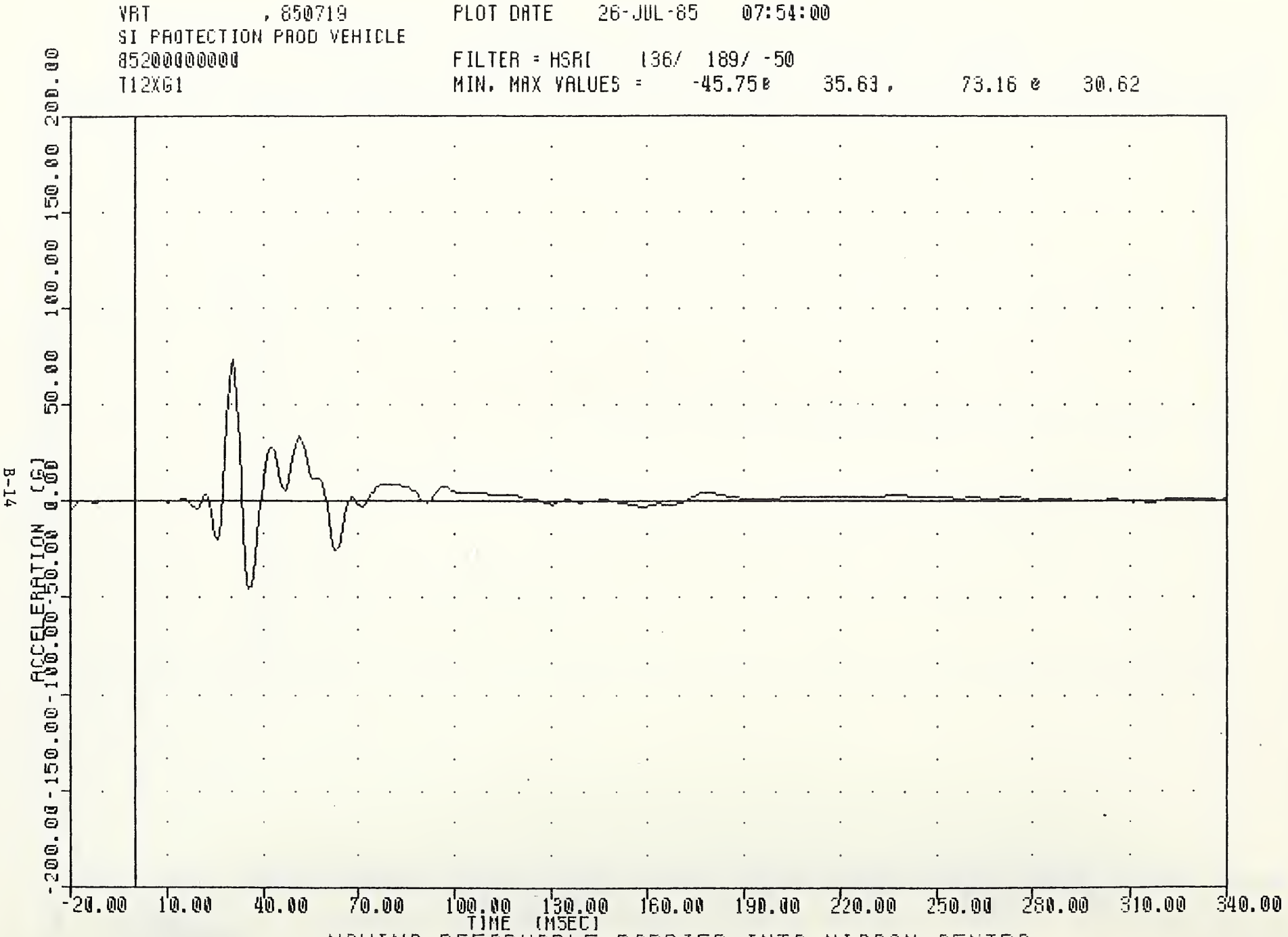
VRT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
852000000000 FILTER = HSRI 136/ 189/ -50
T01YV1 MIN, MAX VALUES = -3.00 @ 33.13 , 28.91 @ 58.75



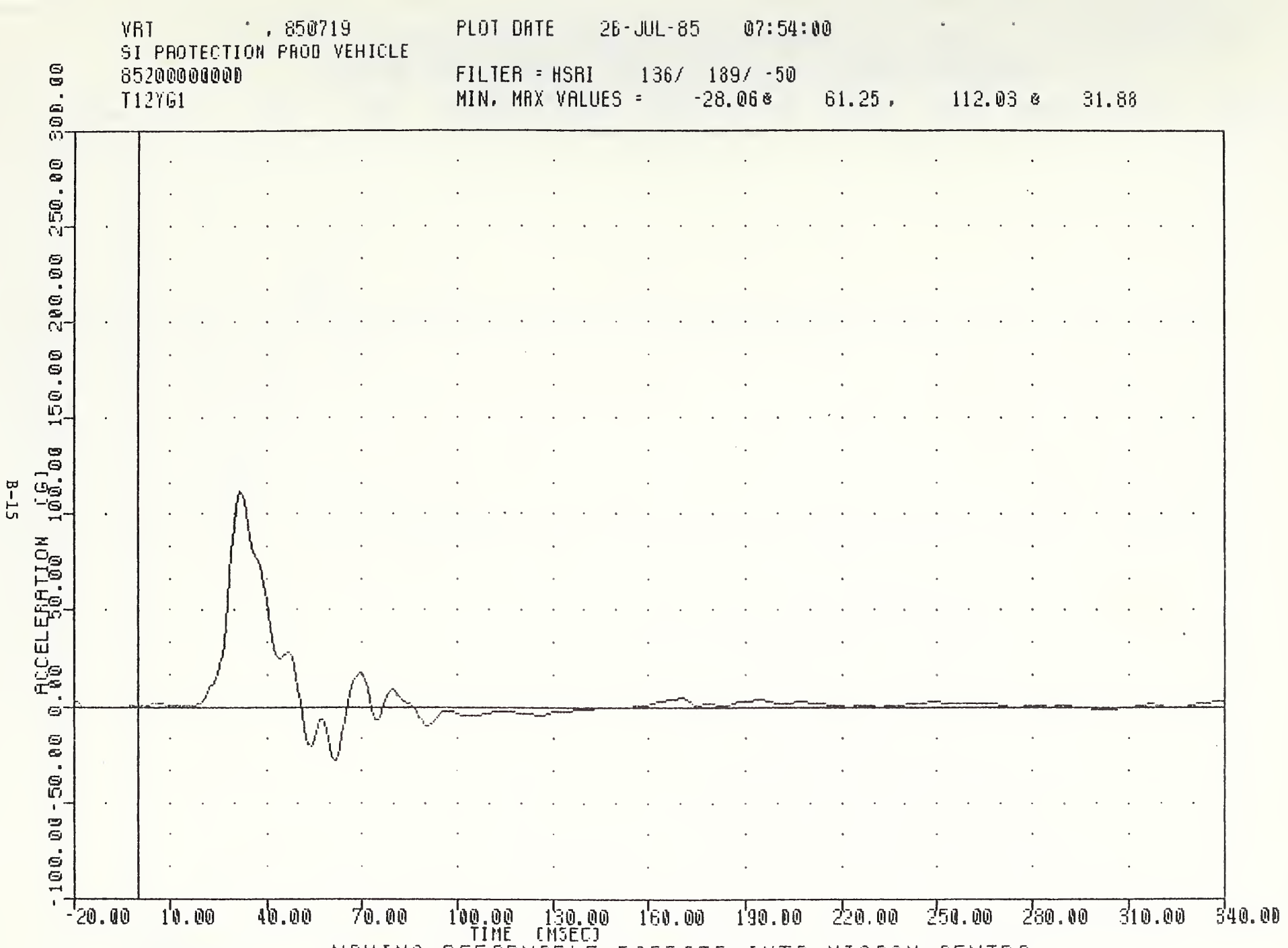
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING T01YG1



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING T01YGA

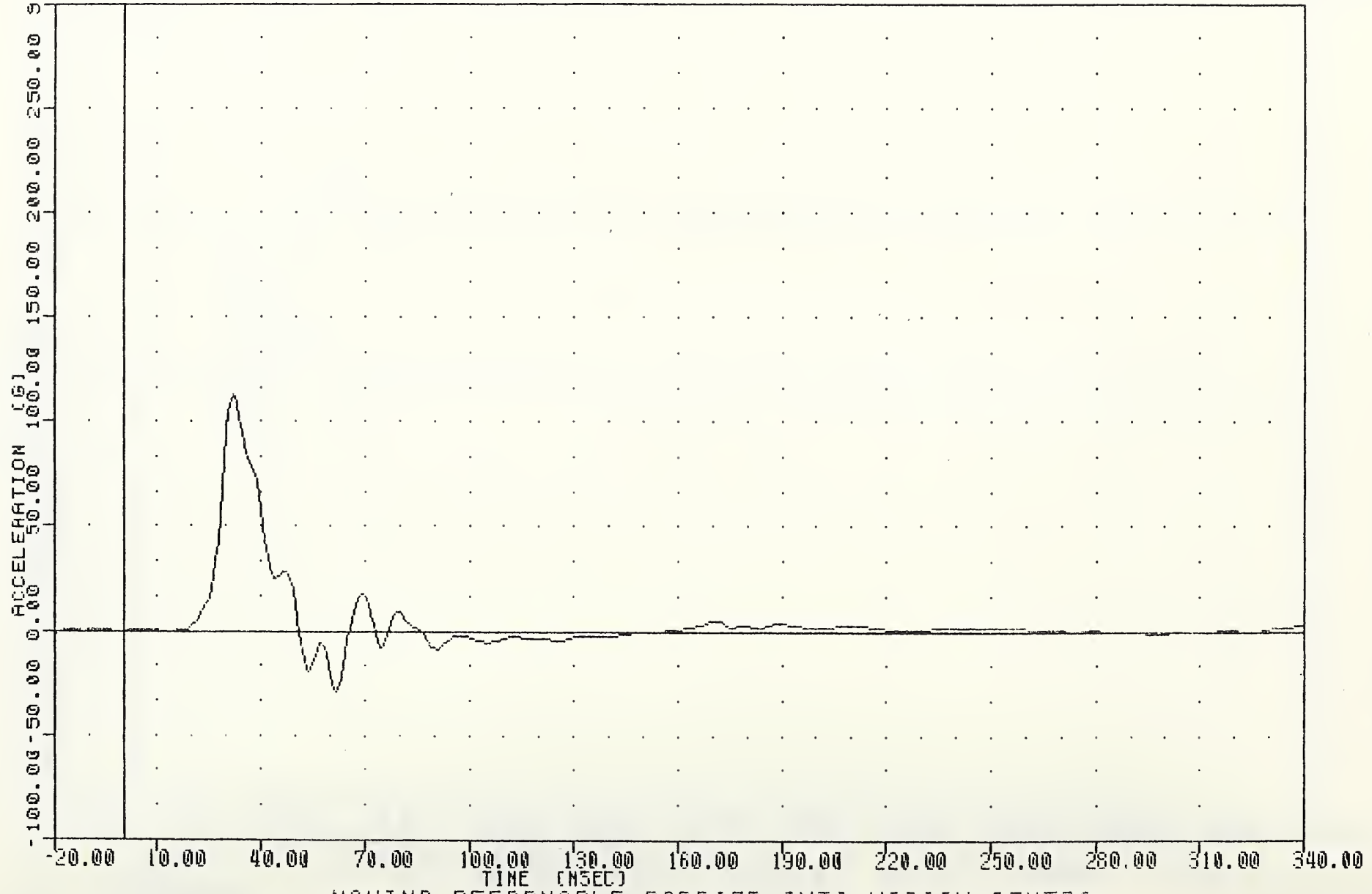


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LOWER SPINE ACCELERATION X AXIS

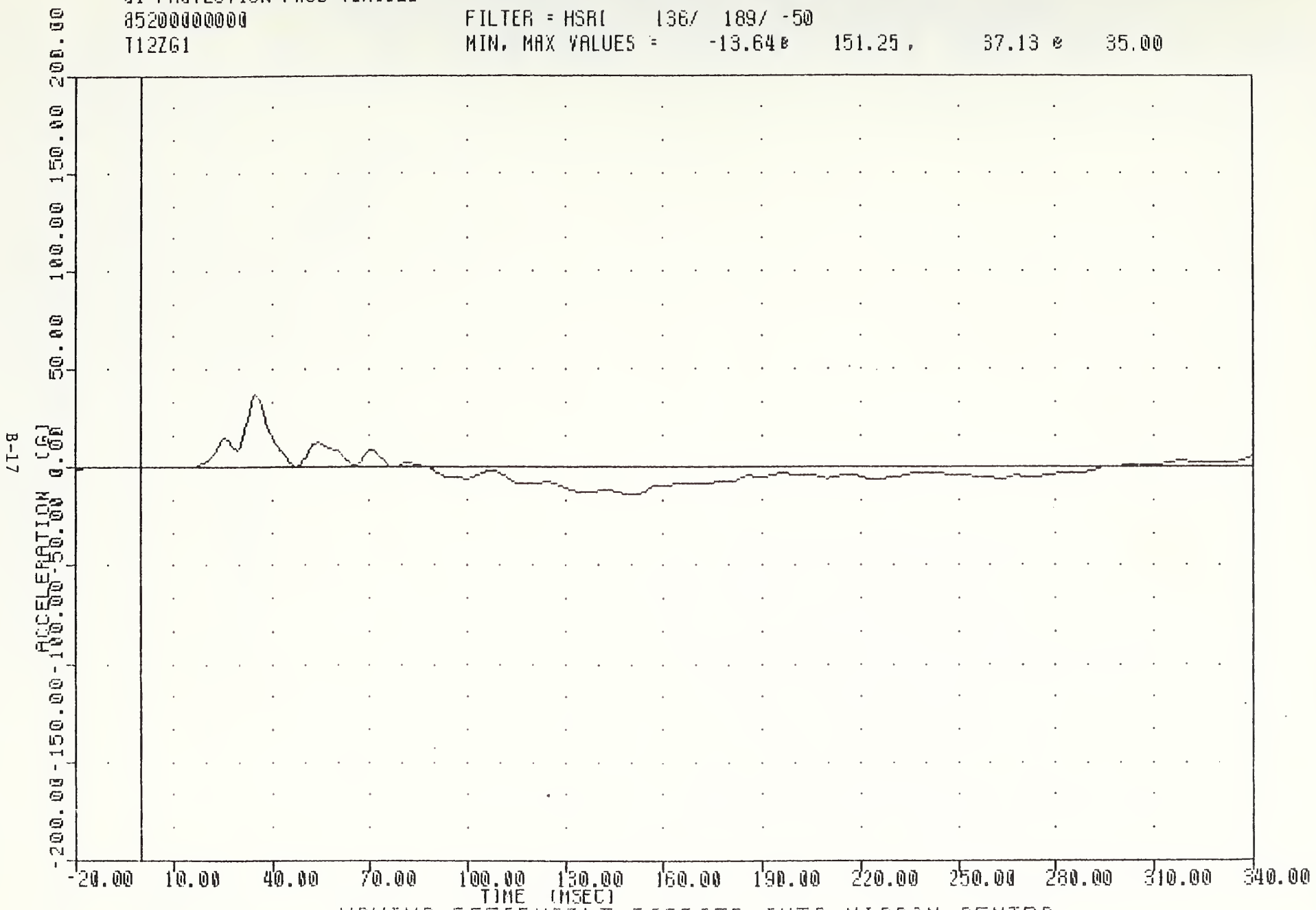


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LOWER SPINE ACCELERATION Y AXIS

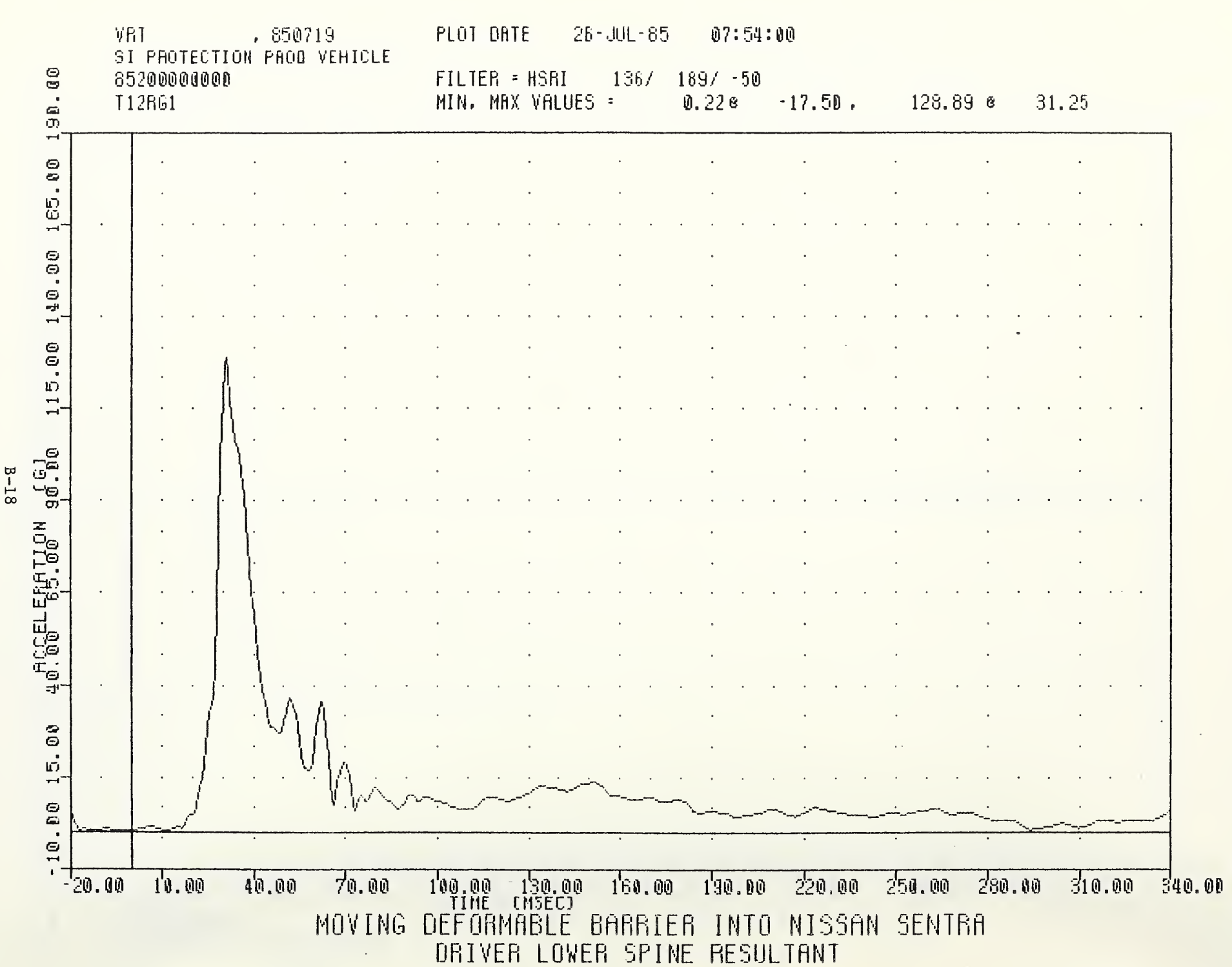
VAT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
85200000000 FILTER = HSRI 136/ 189/ -50
T12YGA MIN, MAX VALUES = -28.62 @ 61.87 , 113.39 @ 31.88

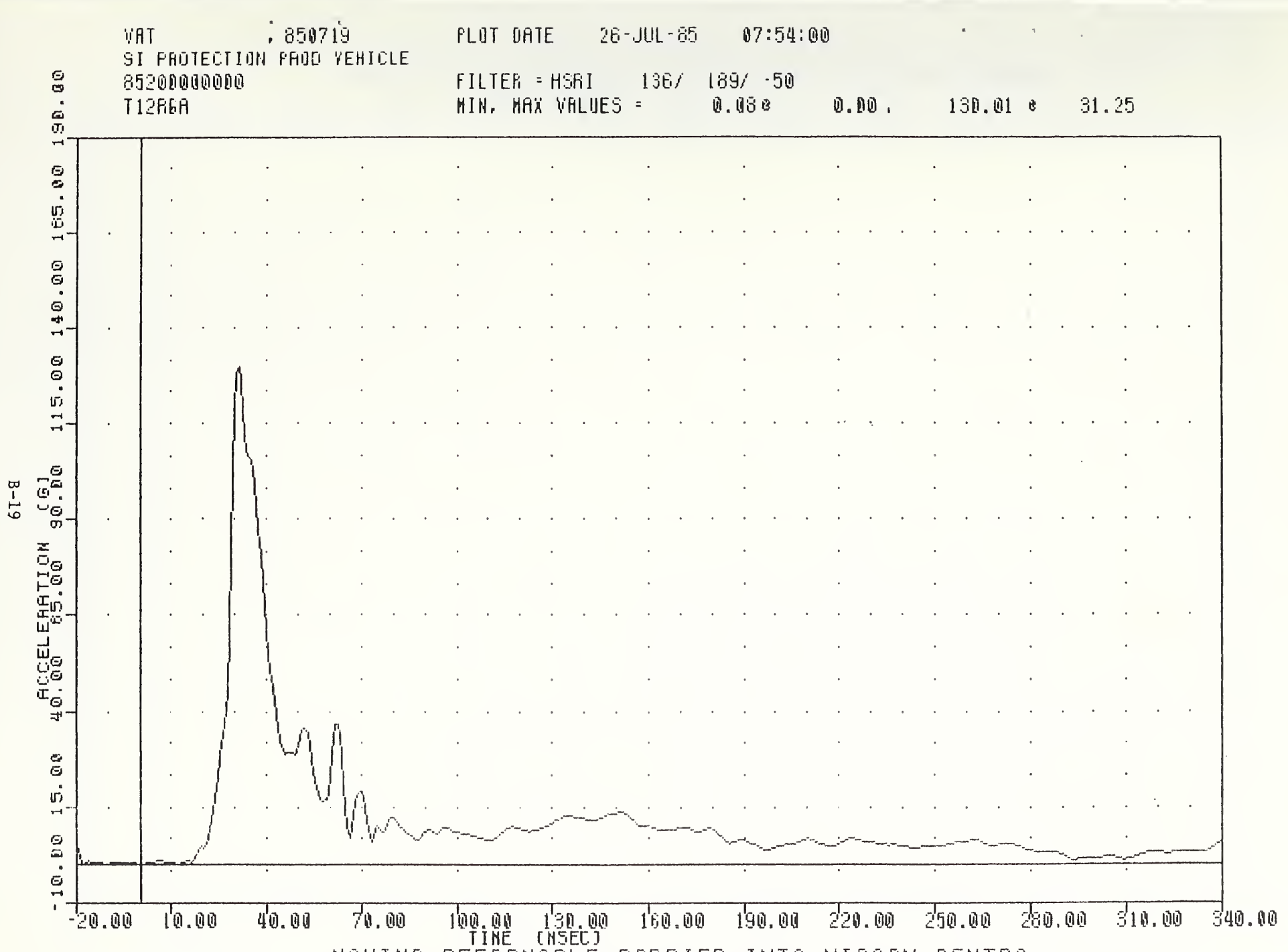


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LOWER SPINE ACCELERATION -2 Y AXIS



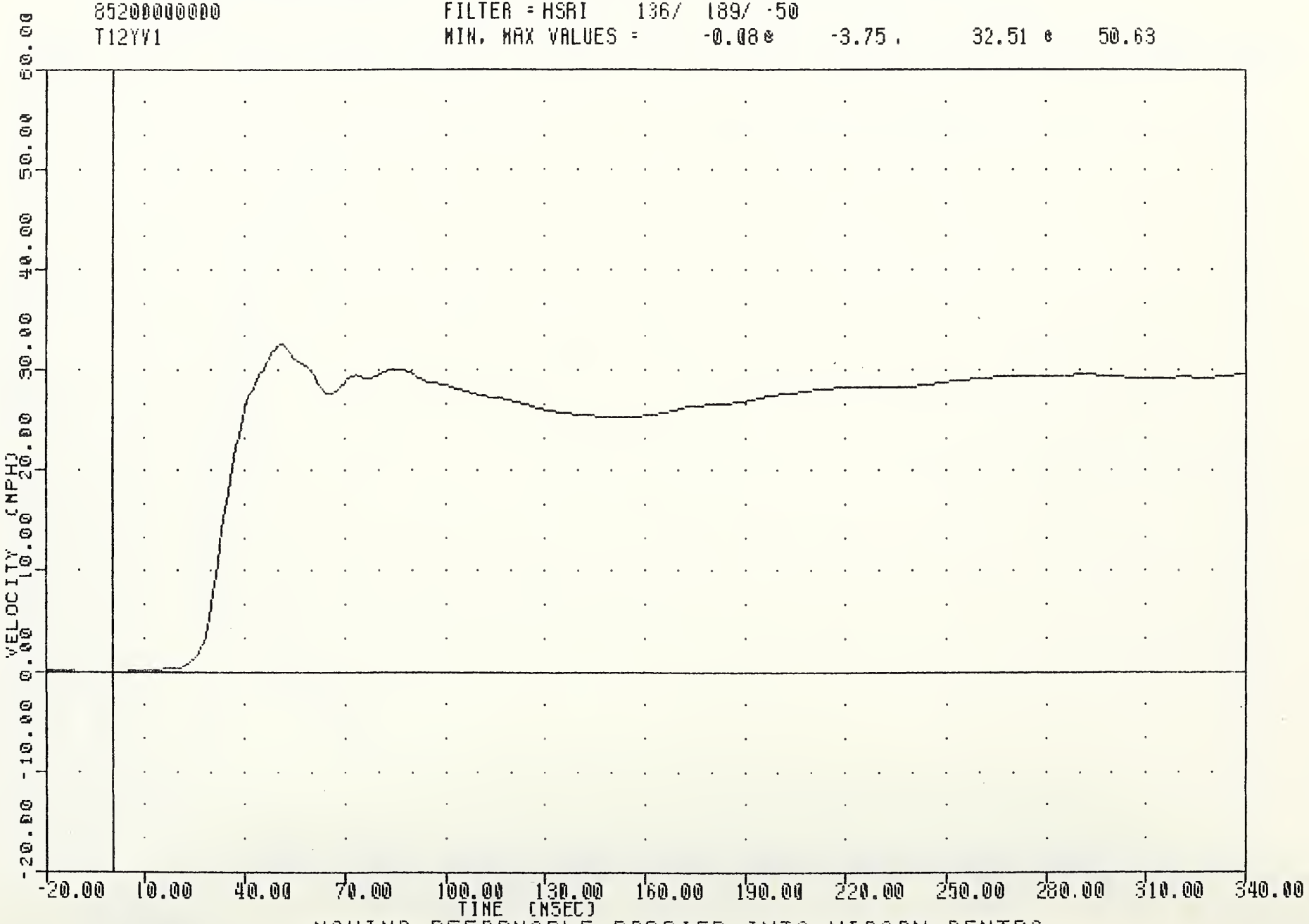
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LOWER SPINE ACCELERATION Z AXIS


VRT , 850719
PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
85200000000
FILTER = HSRI 136/ 189/ -50
T12RG1
MIN, MAX VALUES = 0.22@ -17.50, 128.89@ 31.25
ACCELERATION (G)
-10.00 15.00 40.00 65.00 90.00 115.00 140.00 165.00 190.00
-20.00 10.00 40.00 70.00 100.00 130.00 160.00 190.00 220.00 250.00 280.00 310.00 340.00
TIME (MSEC)
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LOWER SPINE RESULTANT



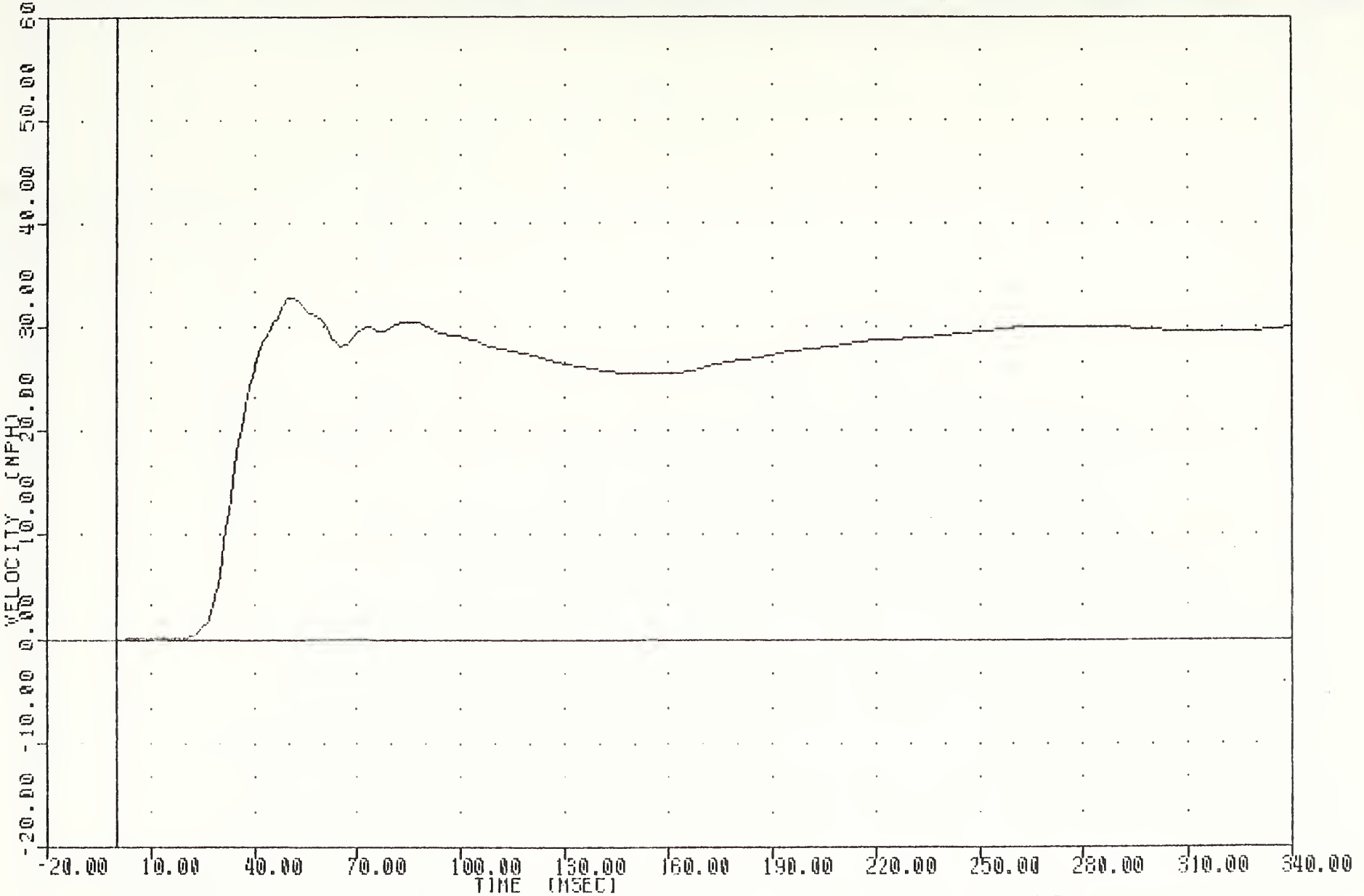
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LOWER SPINE RESULTANT USING T12YGA

VAT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
852000000000 FILTER = HSRI 136/ 189/ -50
T12YV1 MIN, MAX VALUES = -0.08 @ -3.75 , 32.51 @ 50.63

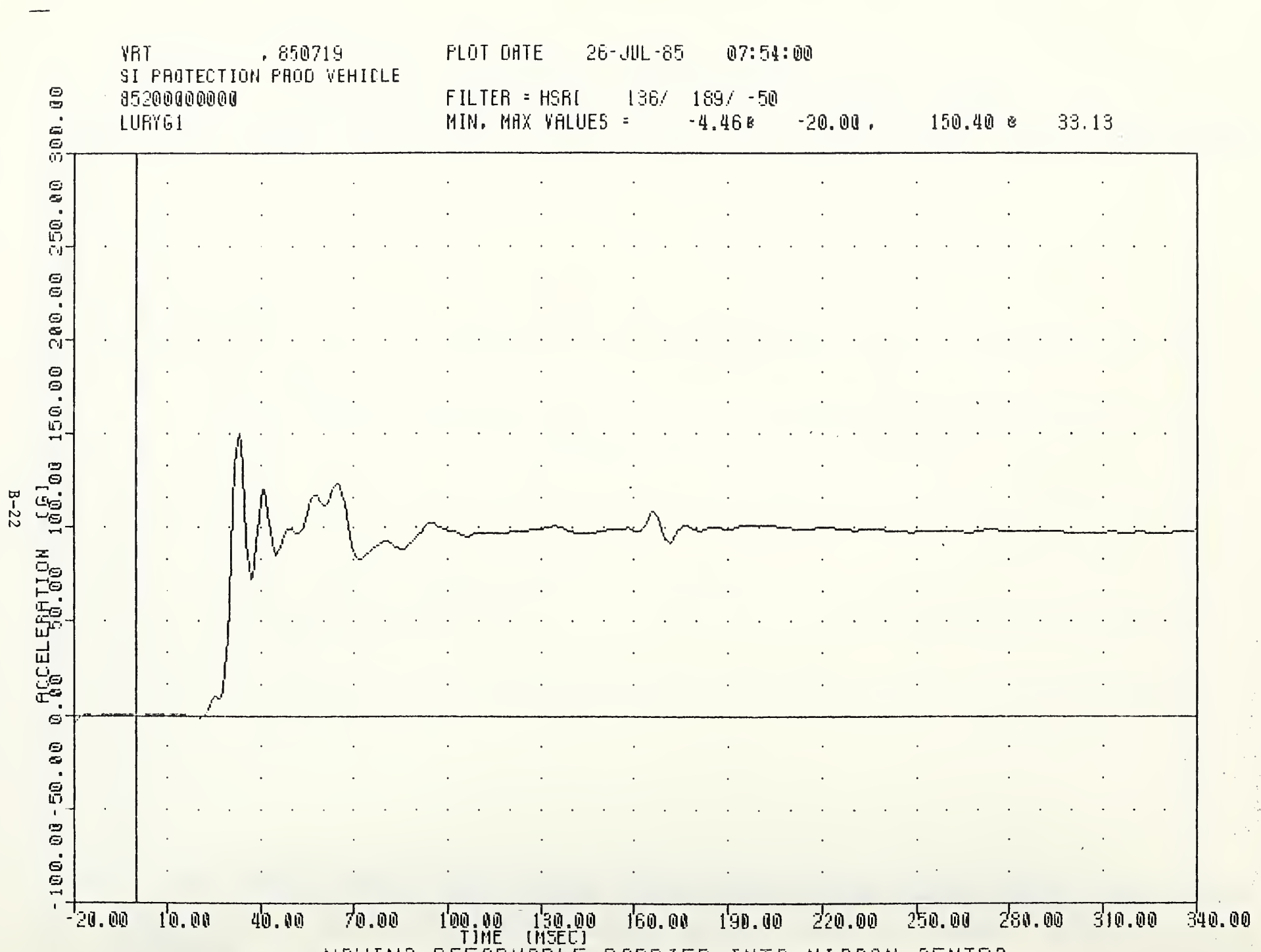


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING T12YG1

VRT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
8520000000 FILTER = HSRI 136/ 189/ -50
T12YVA MIN, MAX VALUES = -0.04 @ -17.50 , 32.88 @ 51.25

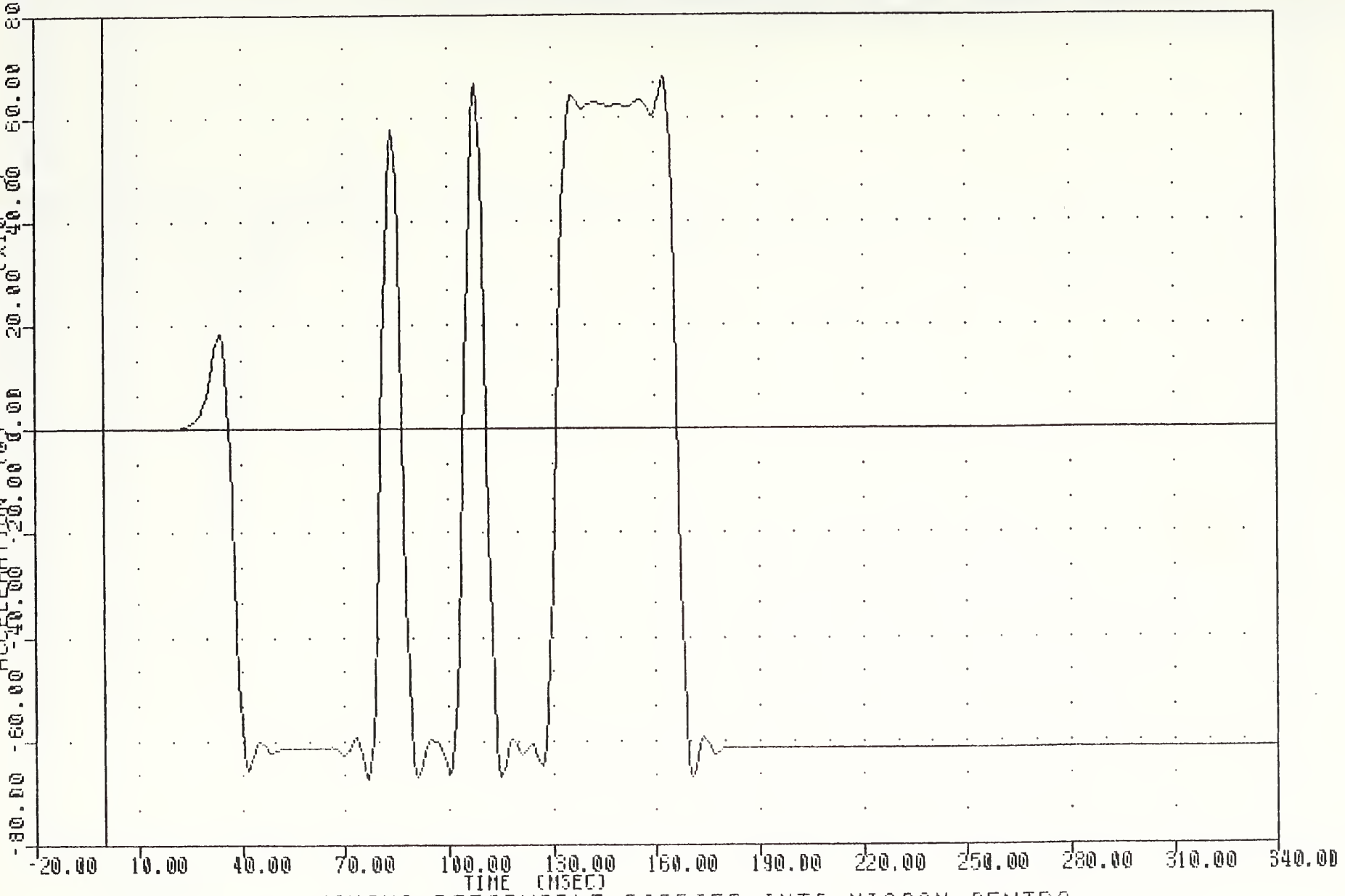


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING T12YGA

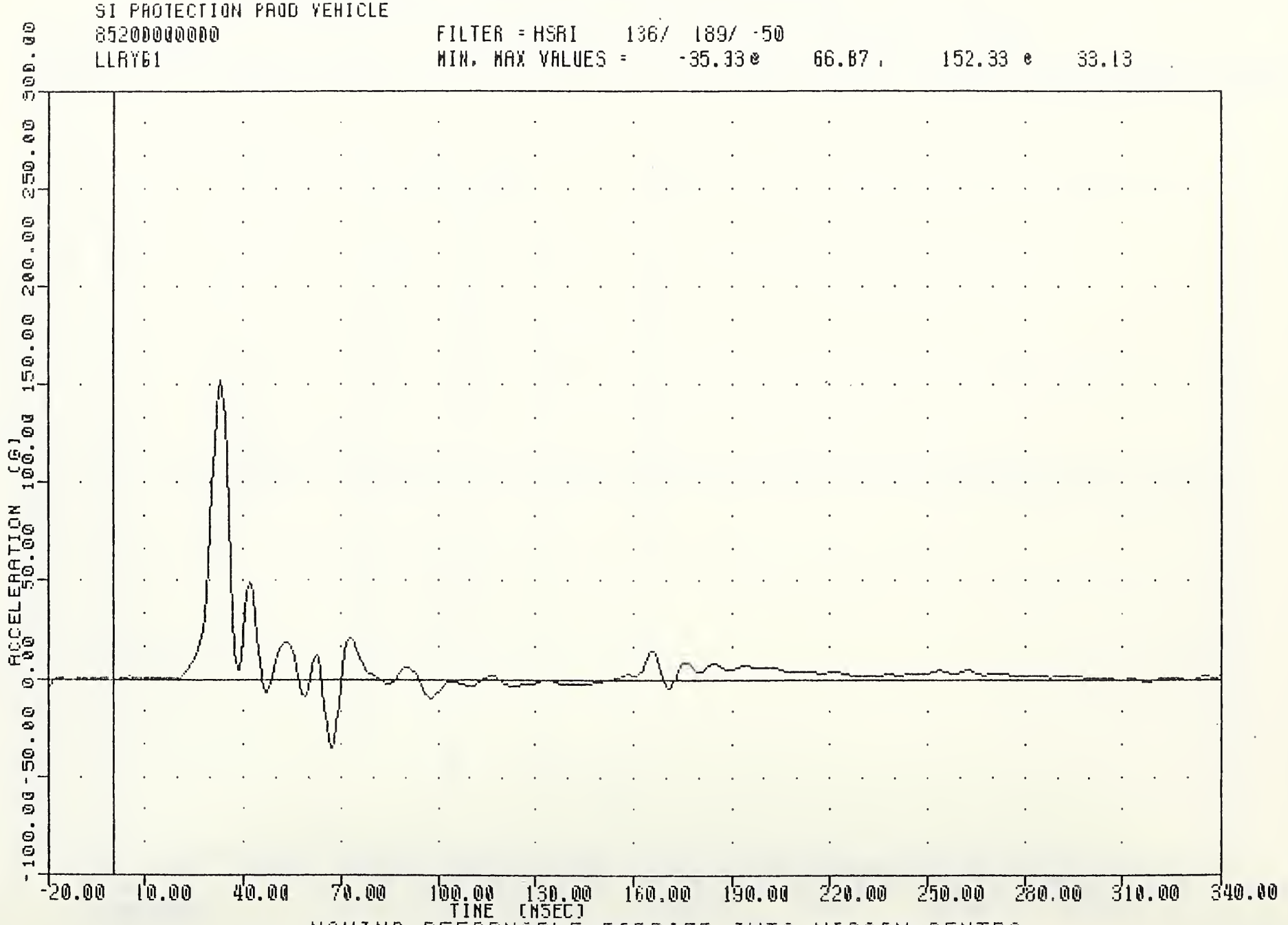


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LEFT UPPER RIB ACCELERATION Y AXIS

VRT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
8520000000D FILTER = HSRI 136/ 189/ -50
LUAYGA MIN, MAX VALUES = -673.46@ 76.88 , 681.06 @ 162.50

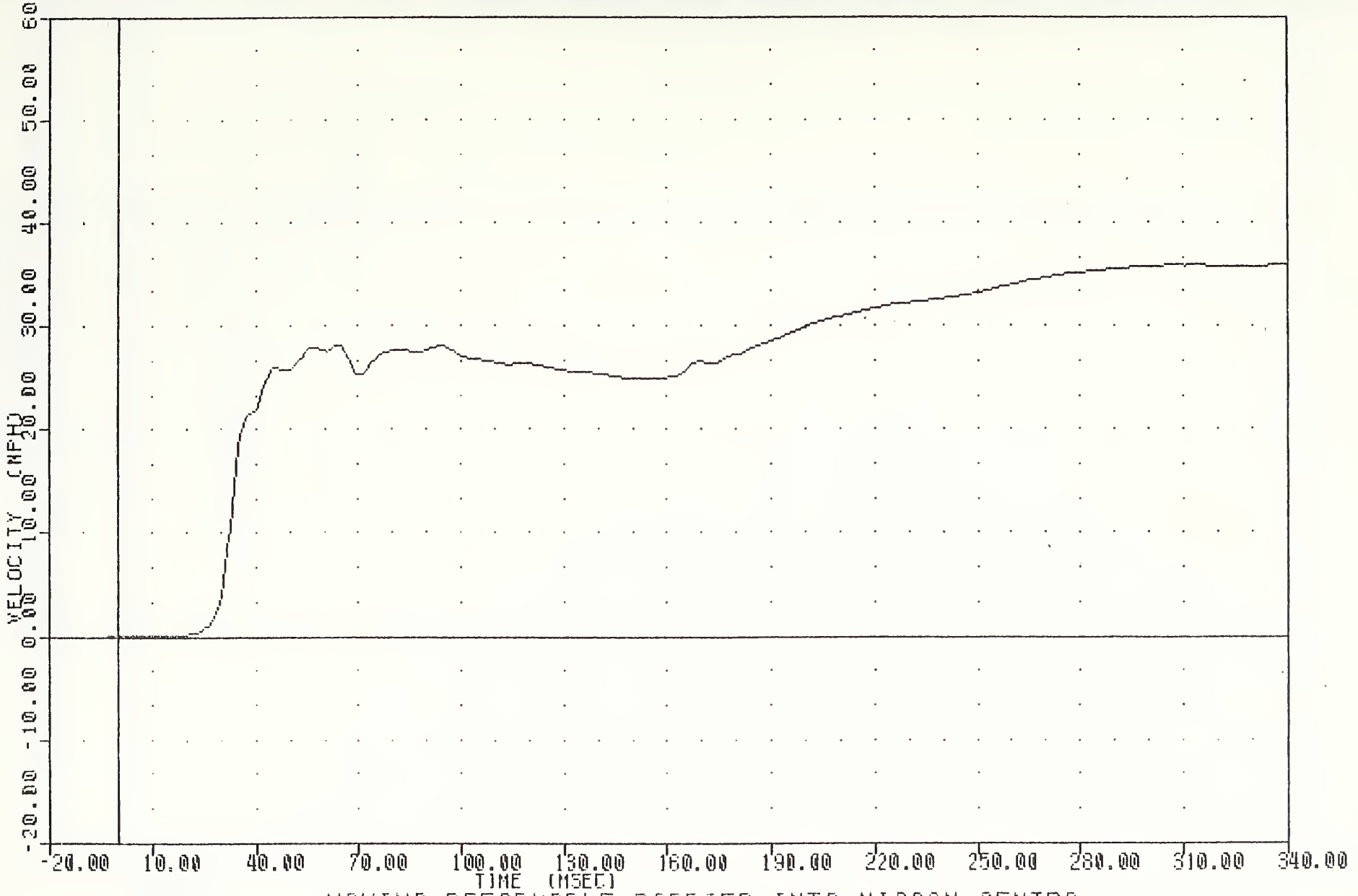


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LEFT UPPER RIB ACCELERATION -2 Y AXIS

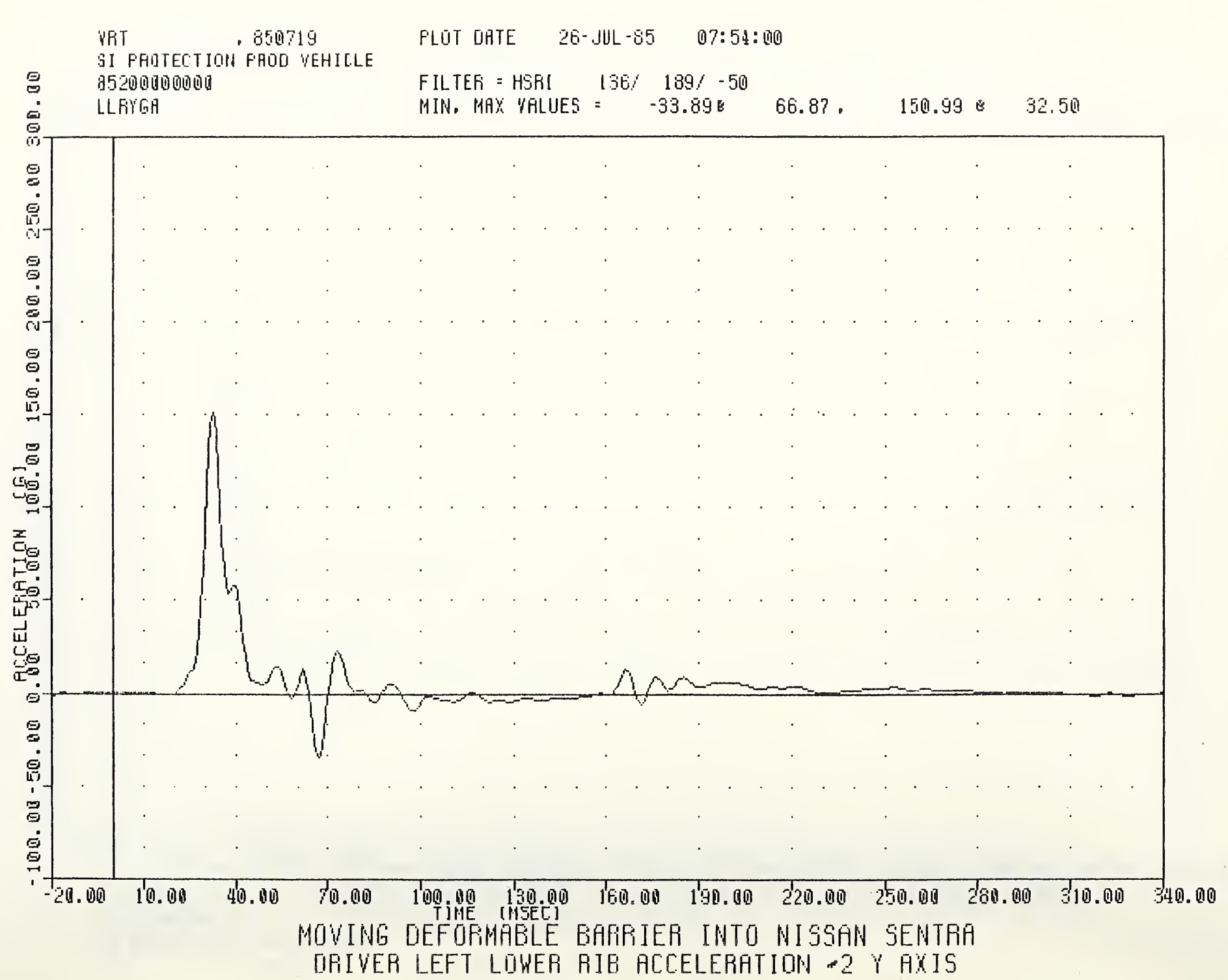


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LEFT LOWER RIB ACCELERATION Y AXIS

VRT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
8520000000 FILTER = HSRI 136/ 189/ -50
LLRYV1 MIN, MAX VALUES = -0.11 @ -17.50 , 36.00 @ 340.00

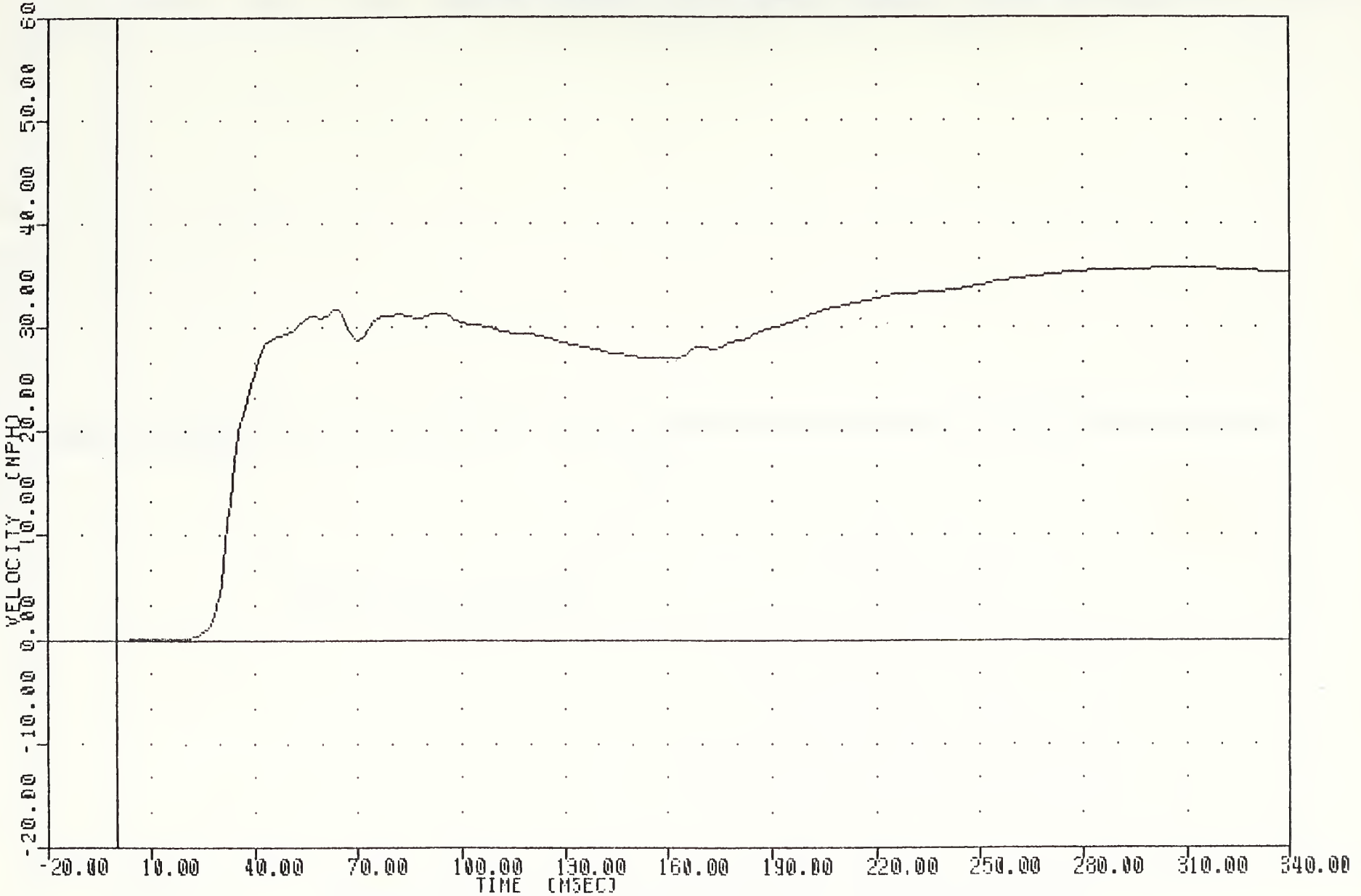


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LLRYG1

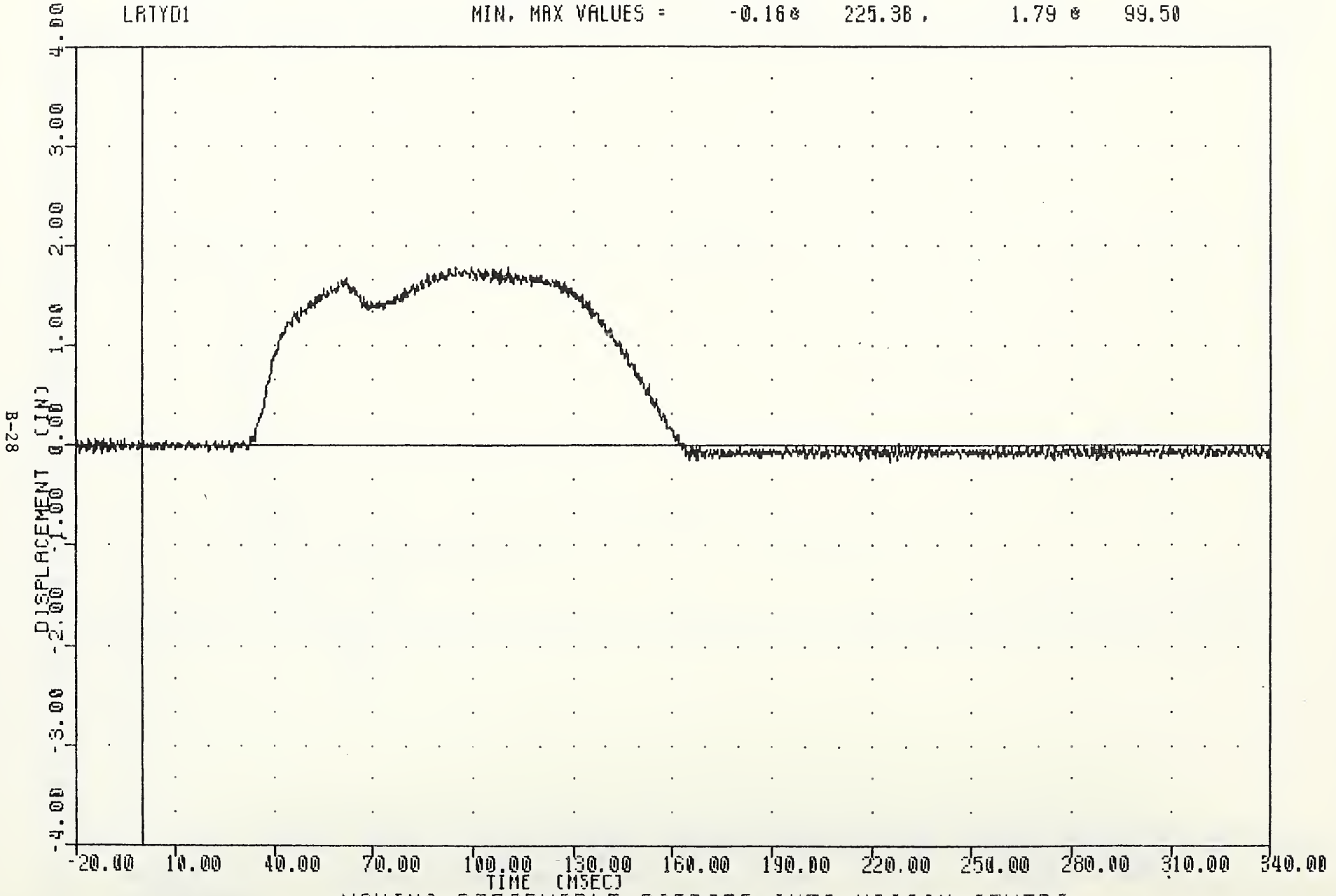


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LEFT LOWER RIB ACCELERATION -2 Y AXIS

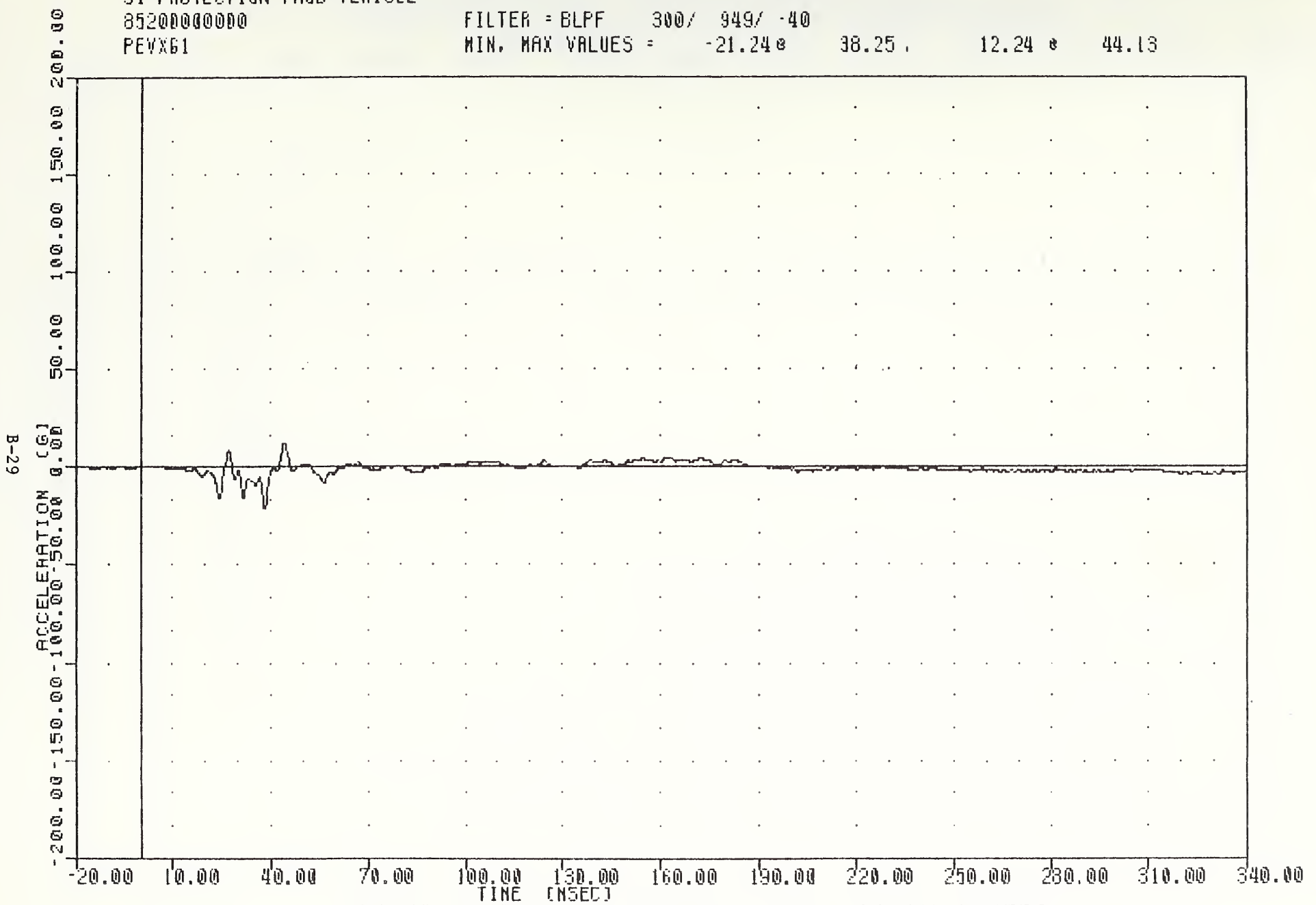
VRT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
8520000@000 FILTER = HSRI 136/ 189/ -50
LLAYVA MIN, MAX VALUES = -0.08 @ -10.00 , 35.79 @ 308.13



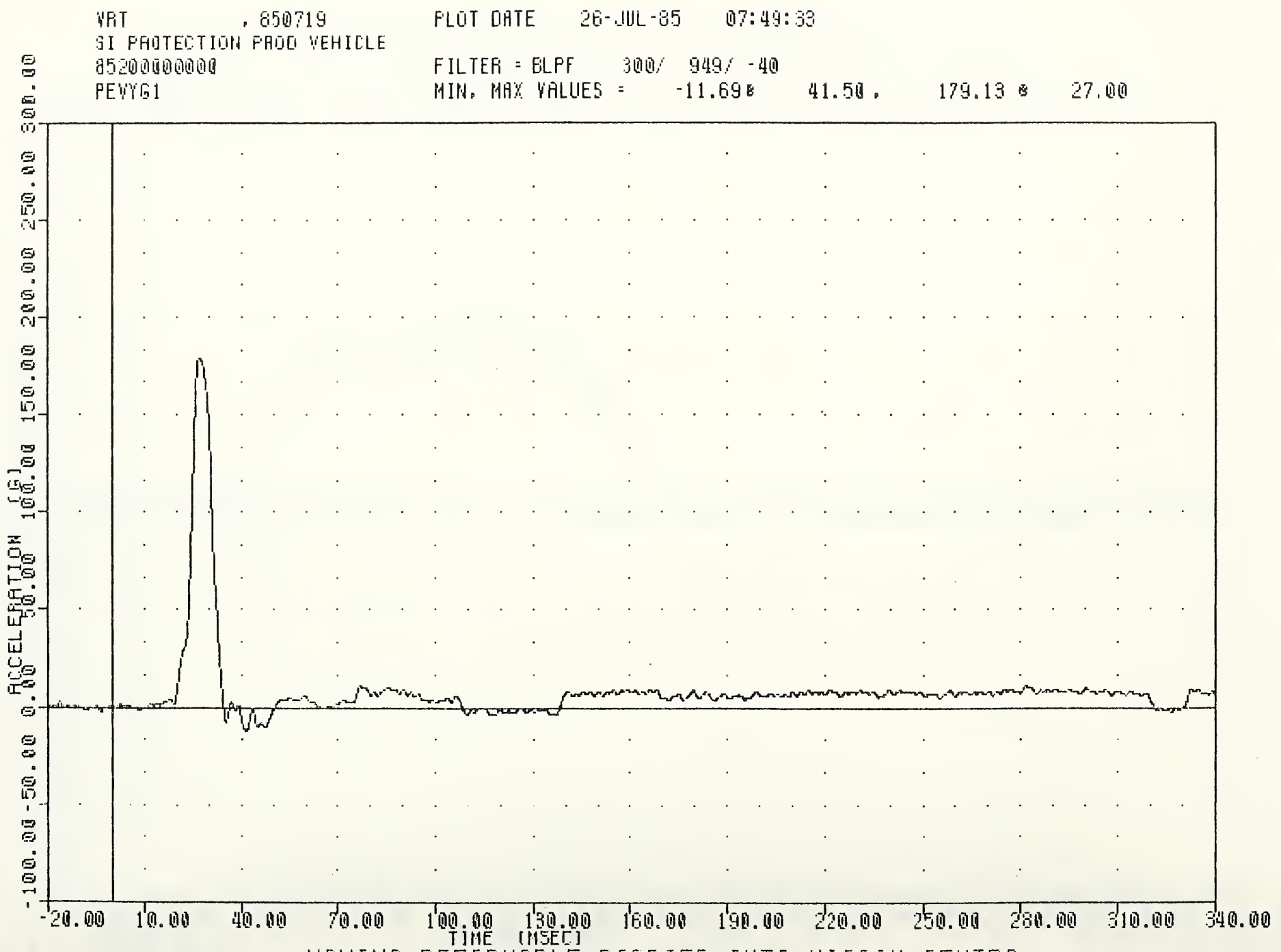
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LLRYGA



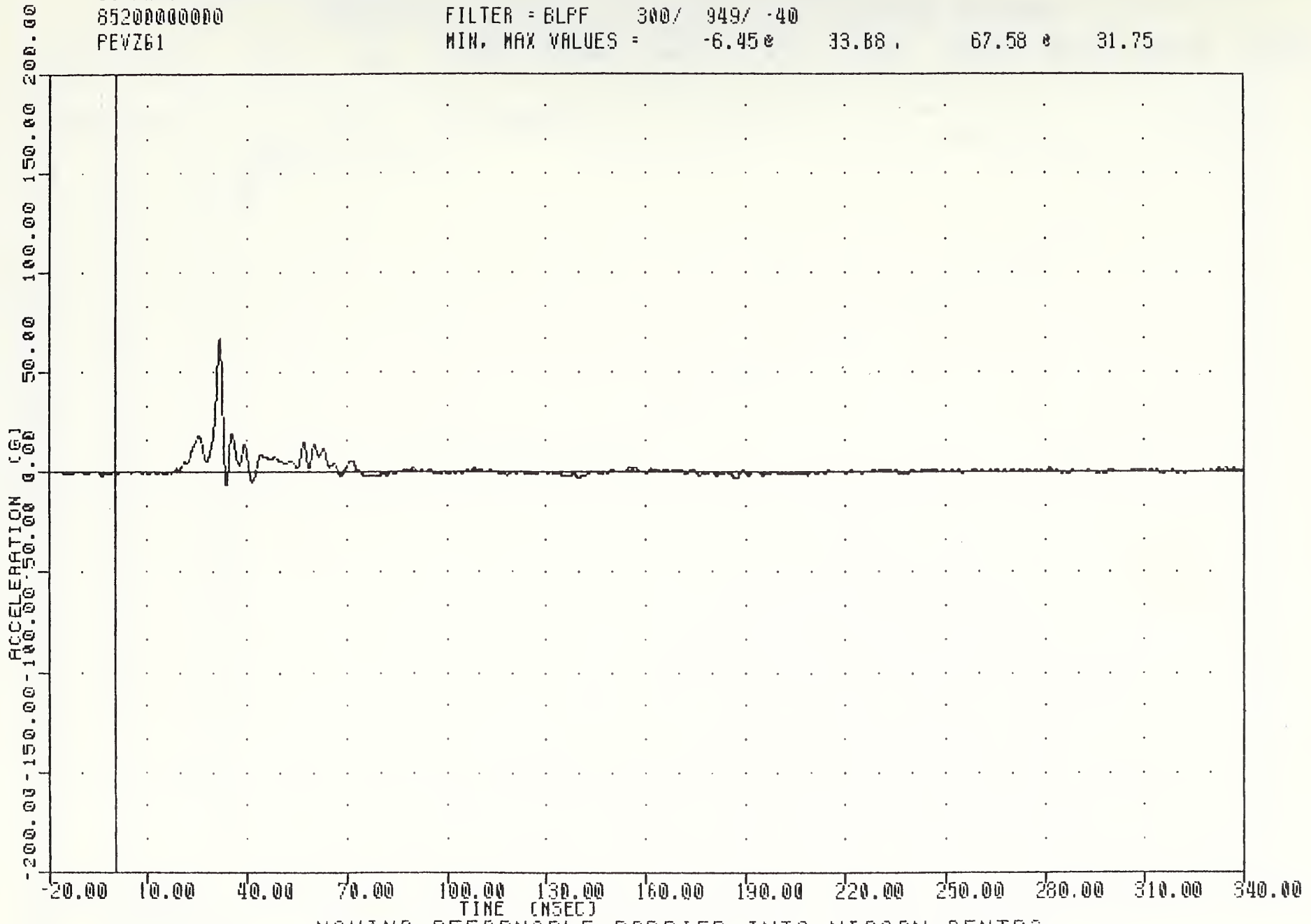
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER LEFT RIB TO SPINE DISPLACEMENT INCHES



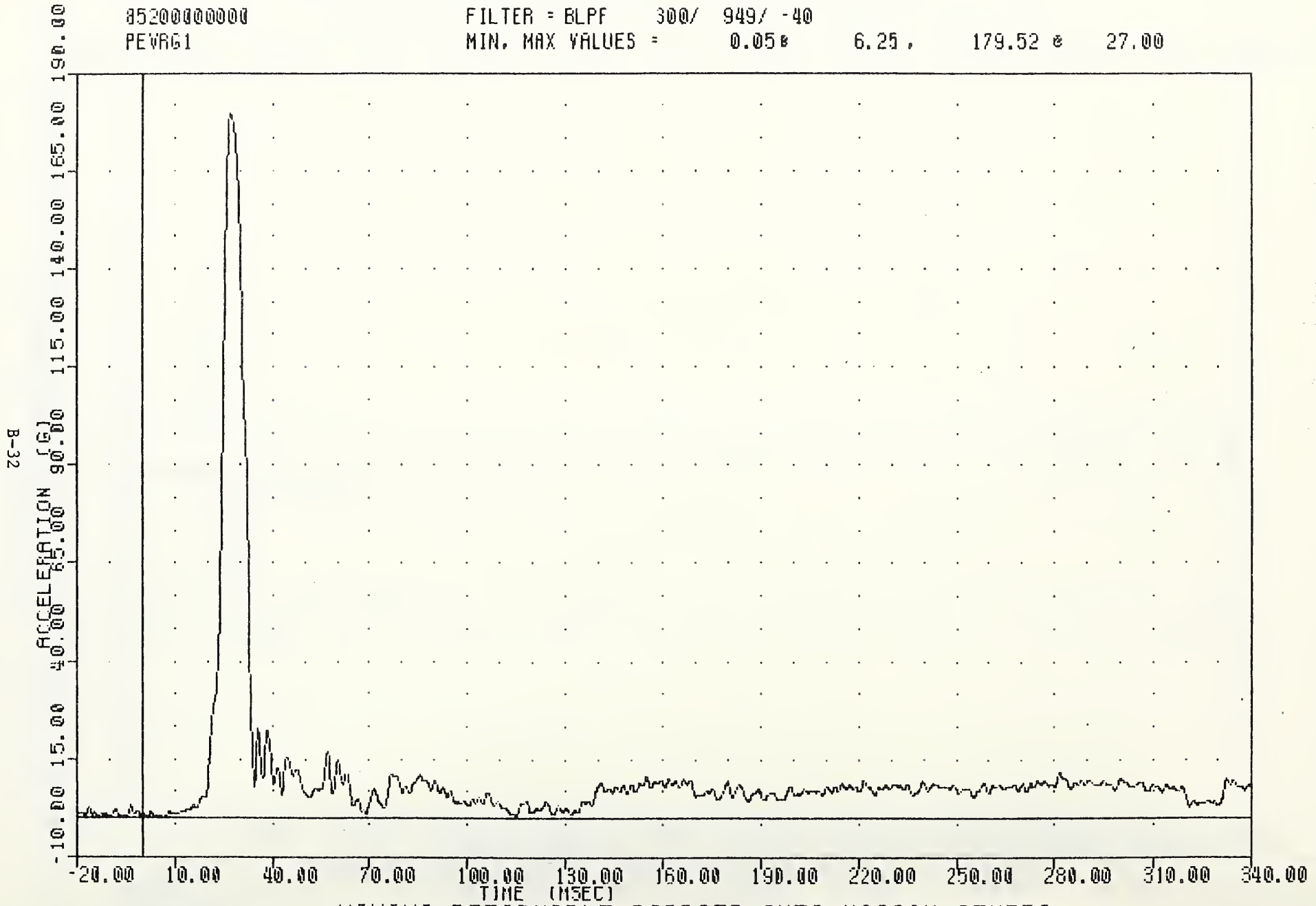
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER PELVIS ACCELERATION X AXIS



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER PELVIS ACCELERATION Y AXIS

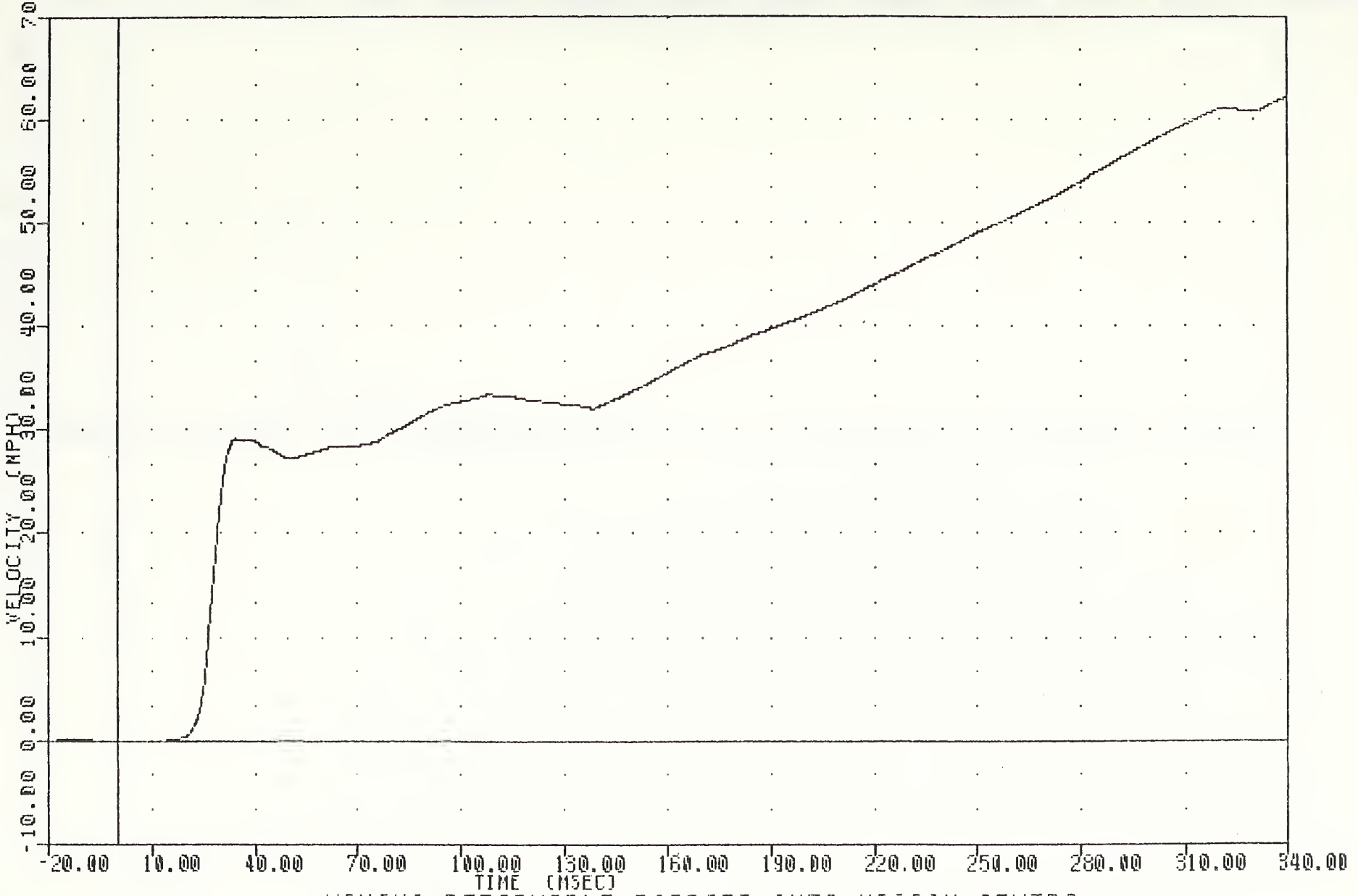


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER PELVIS ACCELERATION Z AXIS

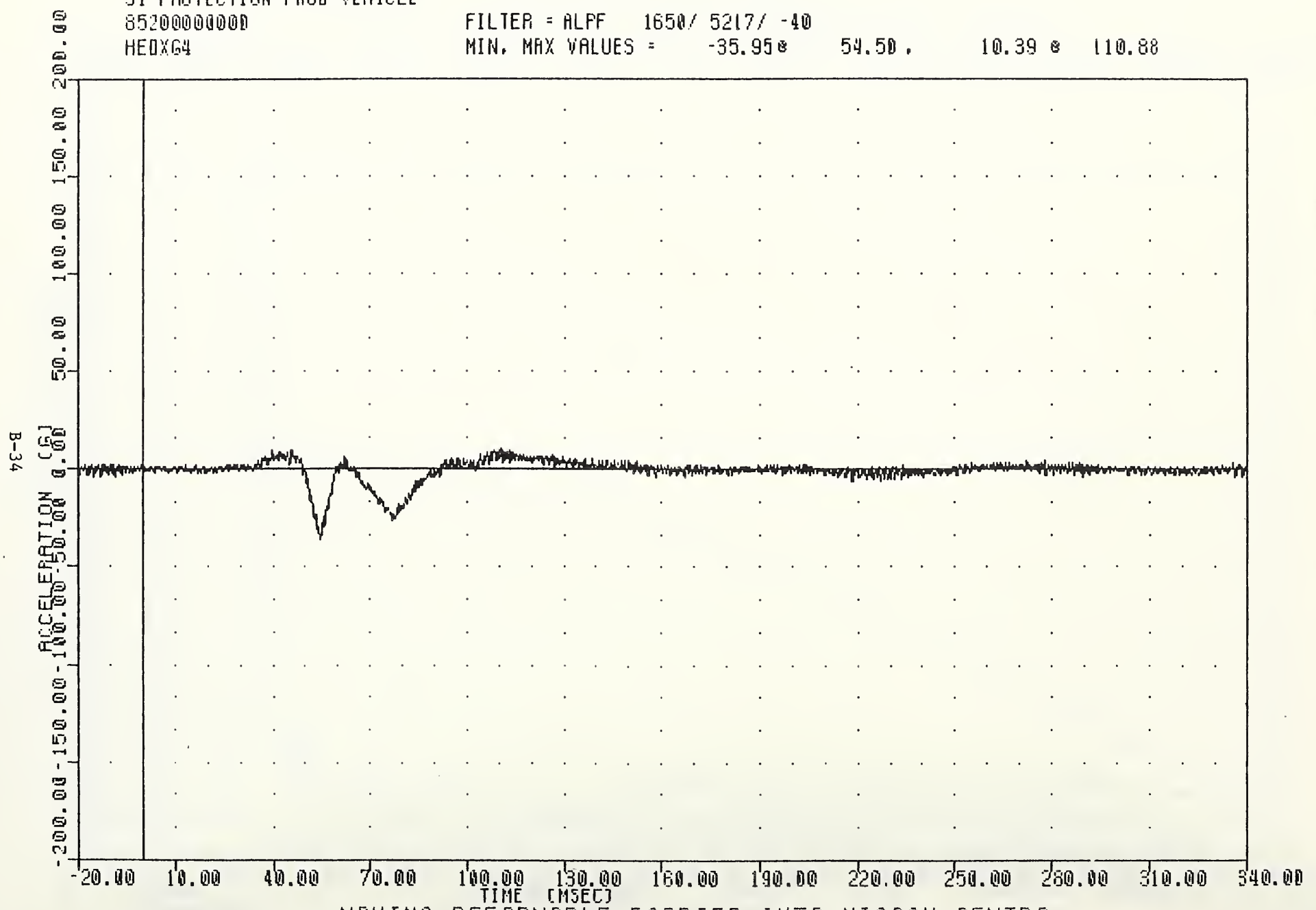


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DRIVER PELVIS RESULTANT

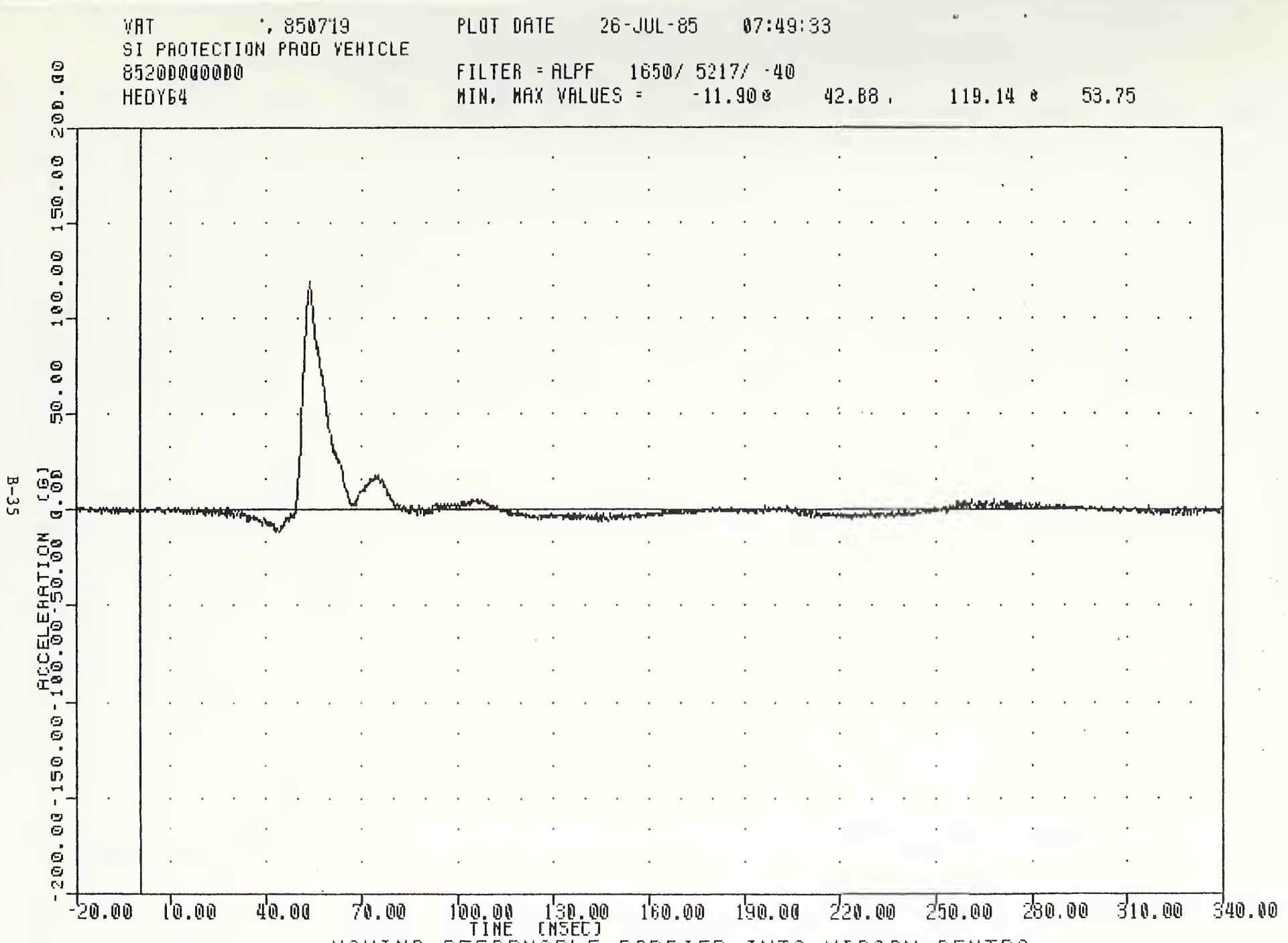
VRT , 850719 PLOT DATE 26-JUL-85 07:49:33
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 300/ 949/ -40
PEVYV1 MIN, MAX VALUES = -0.07 @ -0.88 , 62.20 @ 340.00



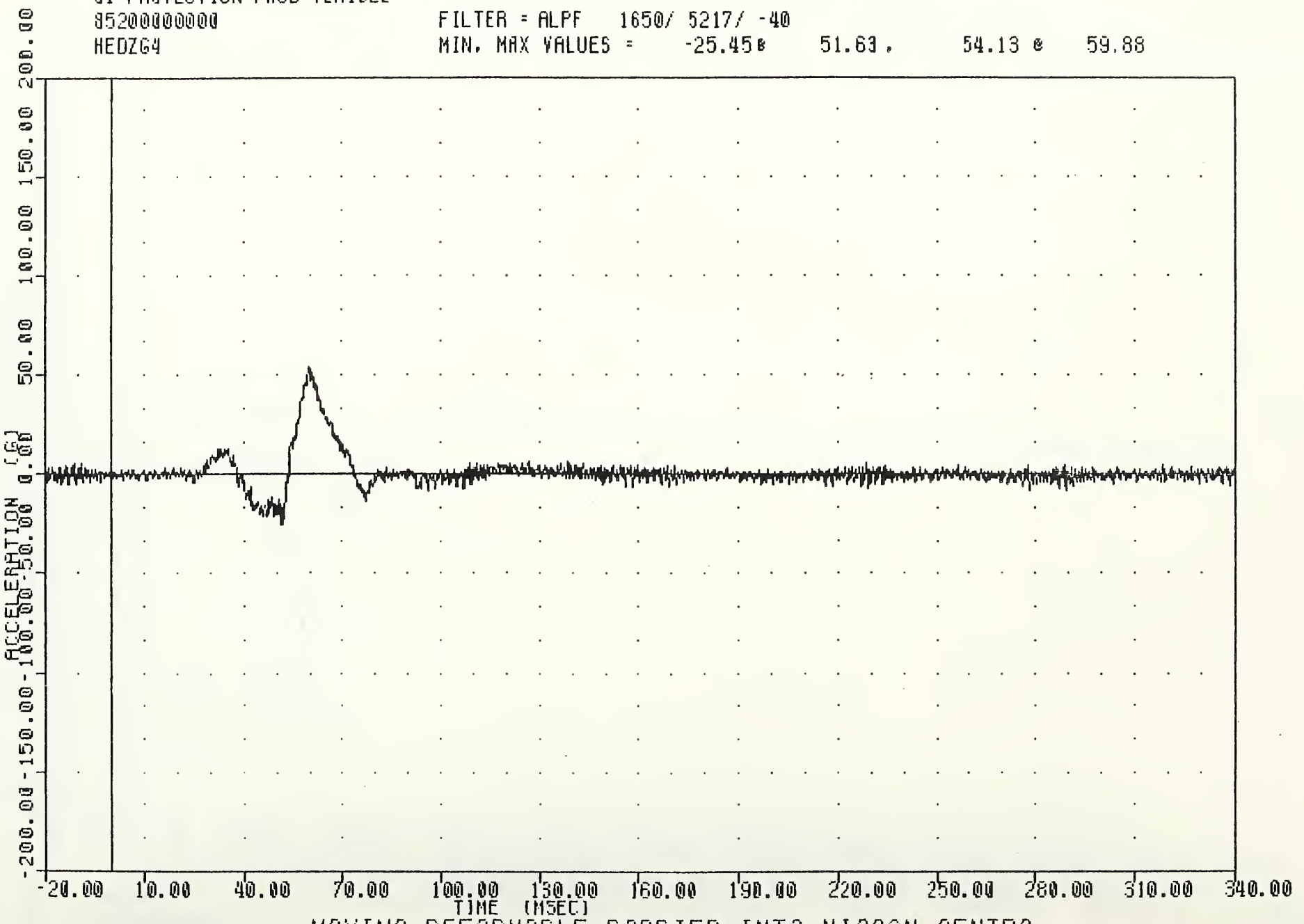
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING PEVYG1



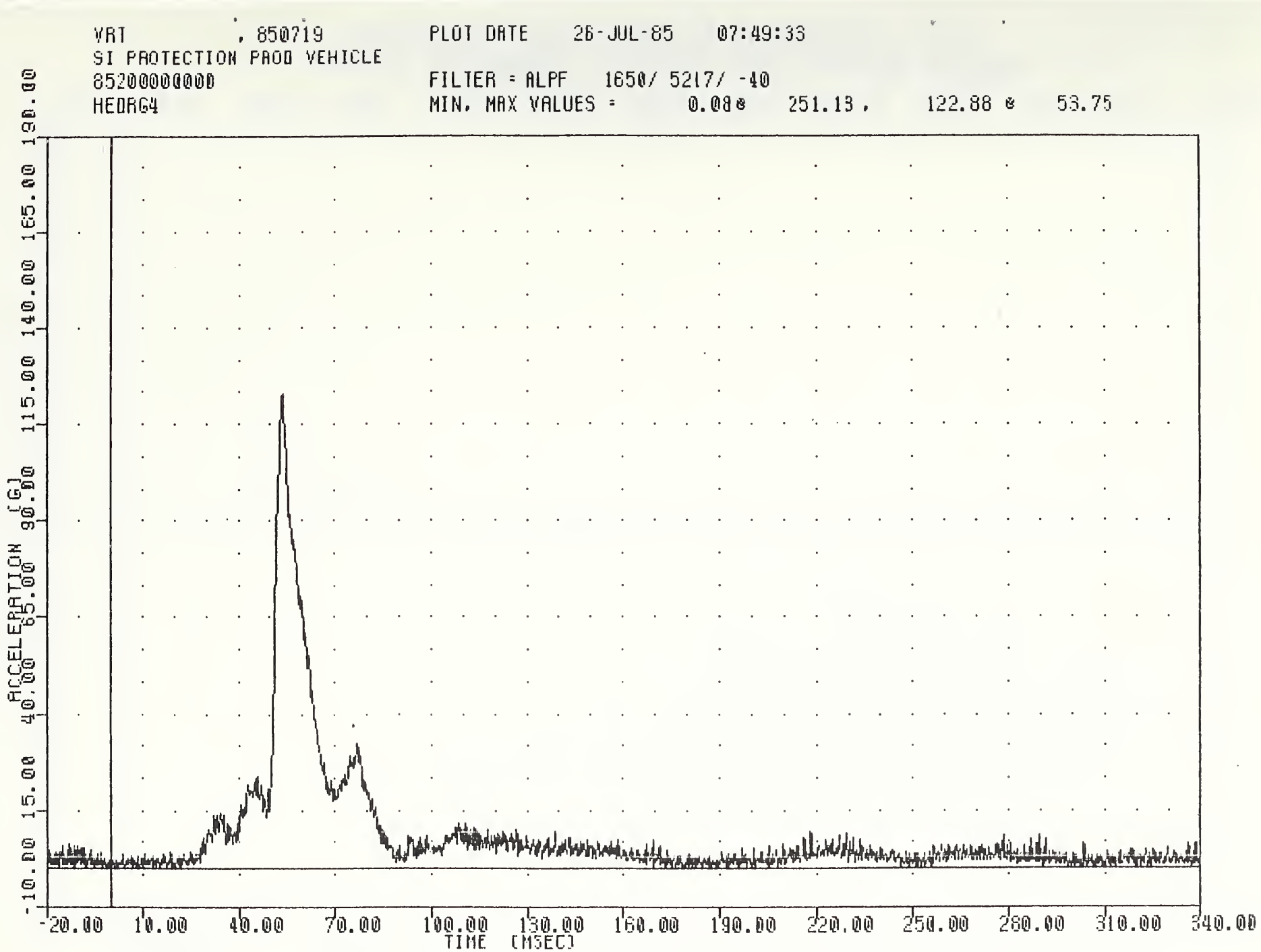
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER HEAD ACCELERATION X AXIS



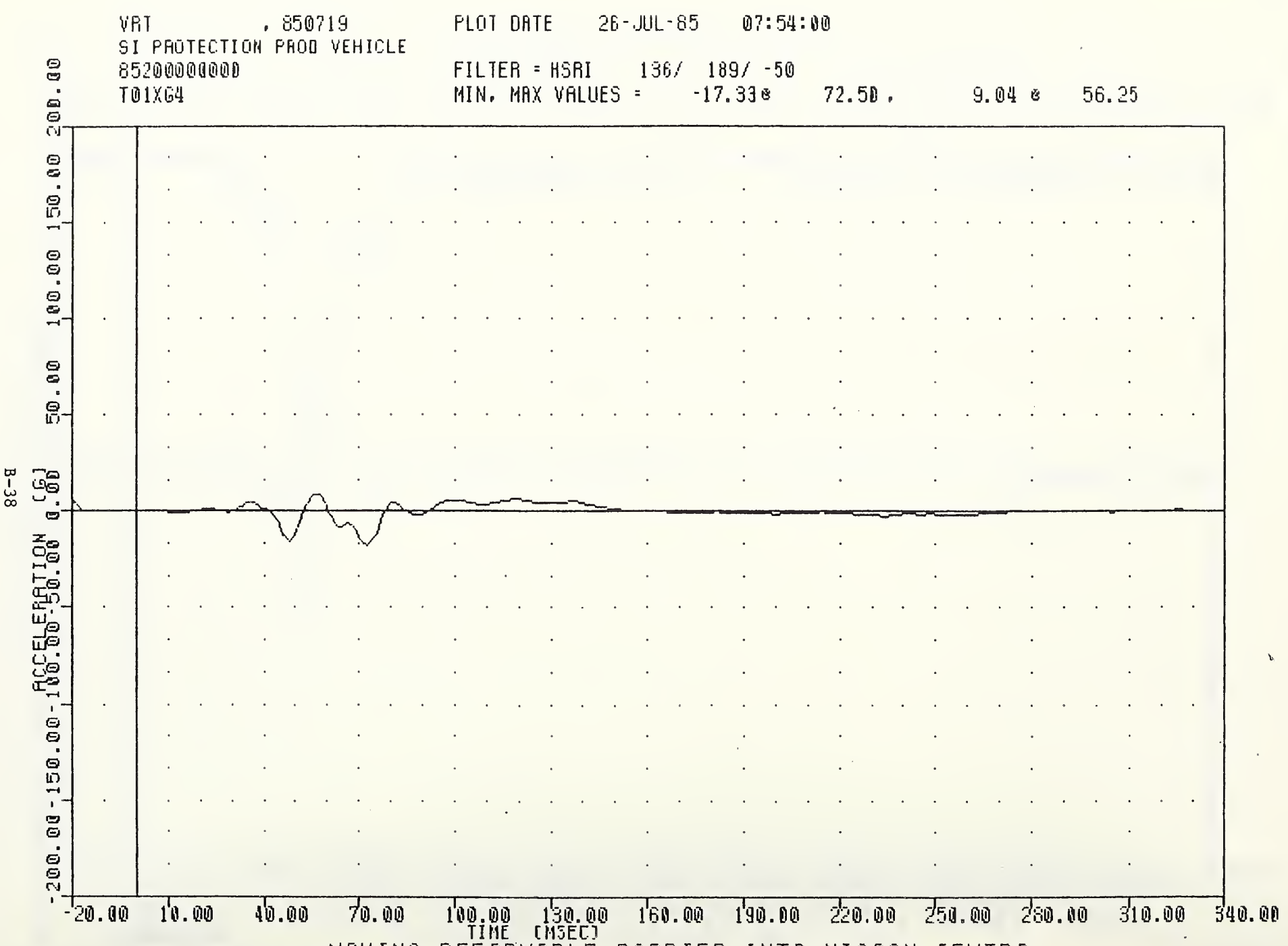
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER HEAD ACCELERATION Y AXIS



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER HEAD ACCELERATION Z AXIS

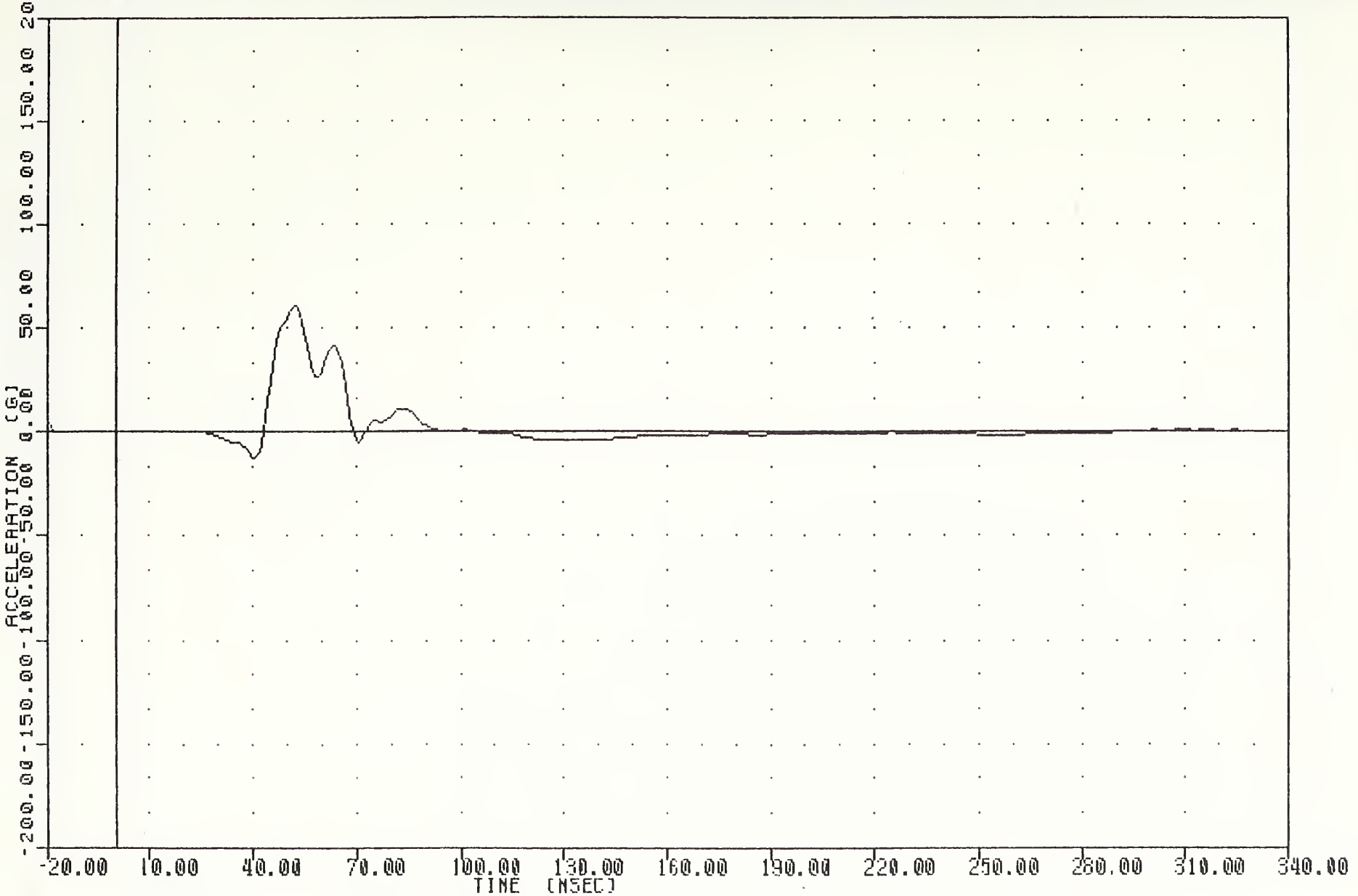


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER HEAD RESULTANT

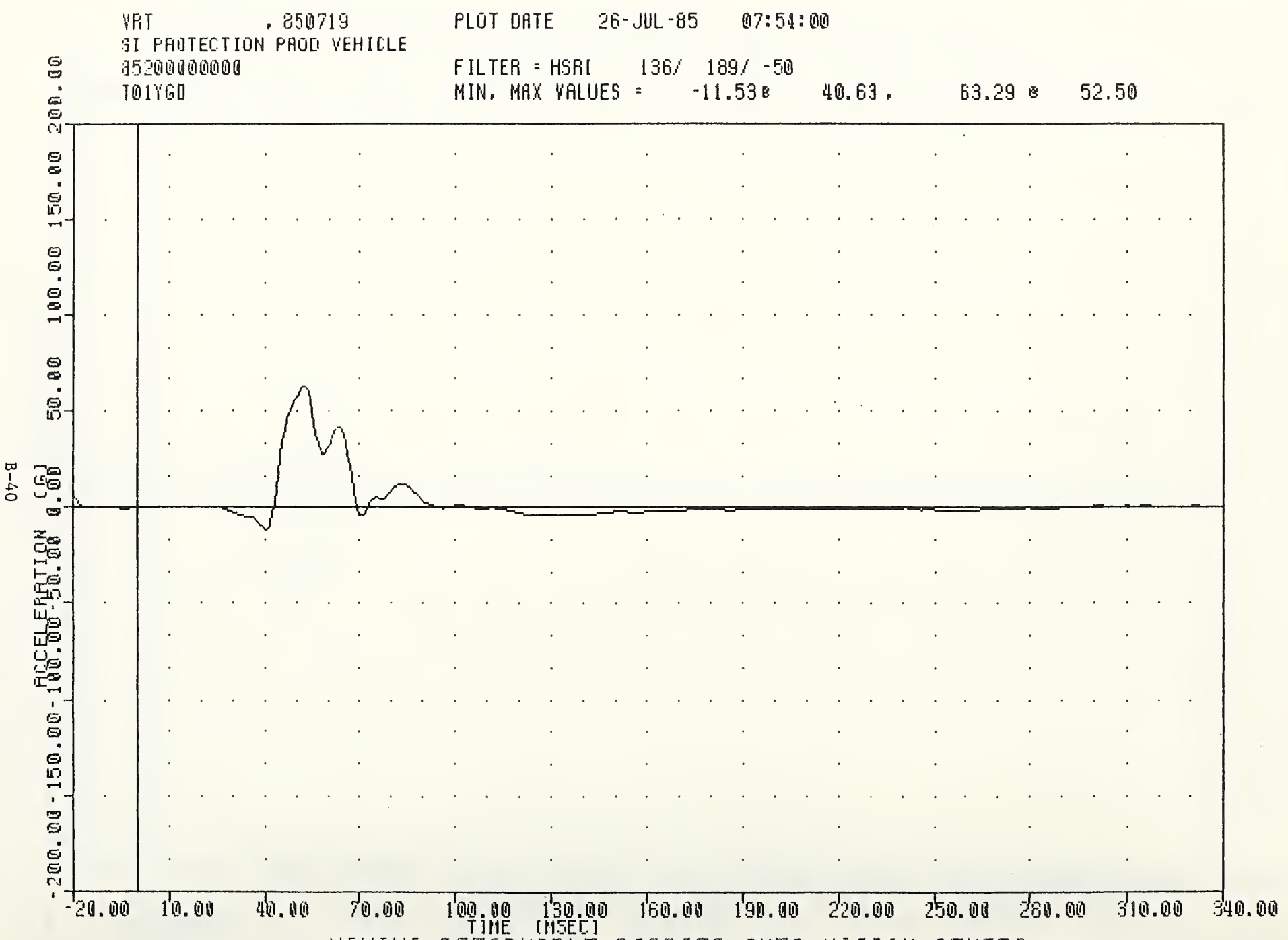


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER UPPER SPINE ACCELERATION X AXIS

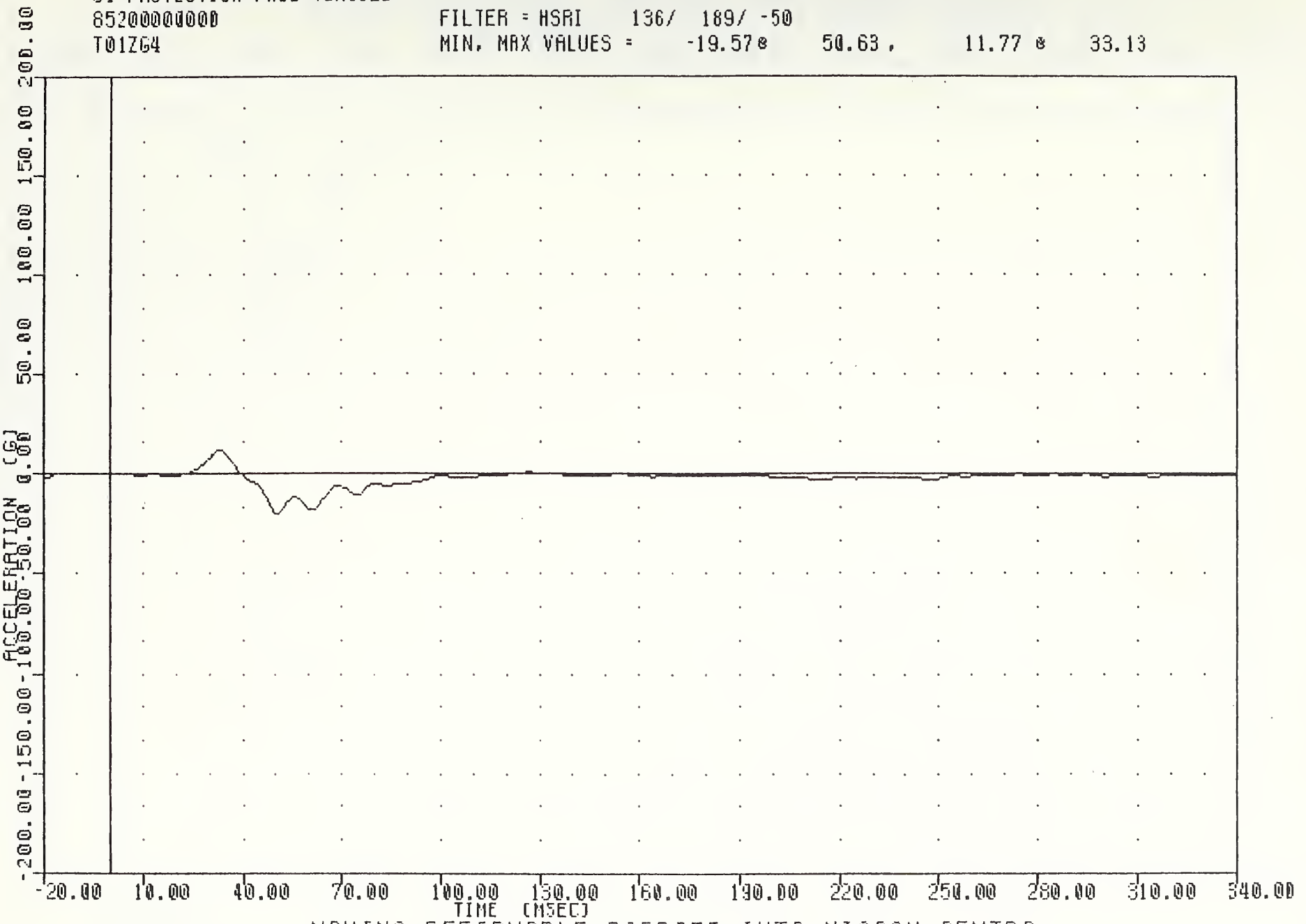
VAT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
8520D0@@@D0 FILTER = HSRI 136/ 189/ -50
T@1Y64 MIN, MAX VALUES = -12.49@ 40.63, 60.67 @ 52.50



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER UPPER SPINE ACCELERATION Y AXIS

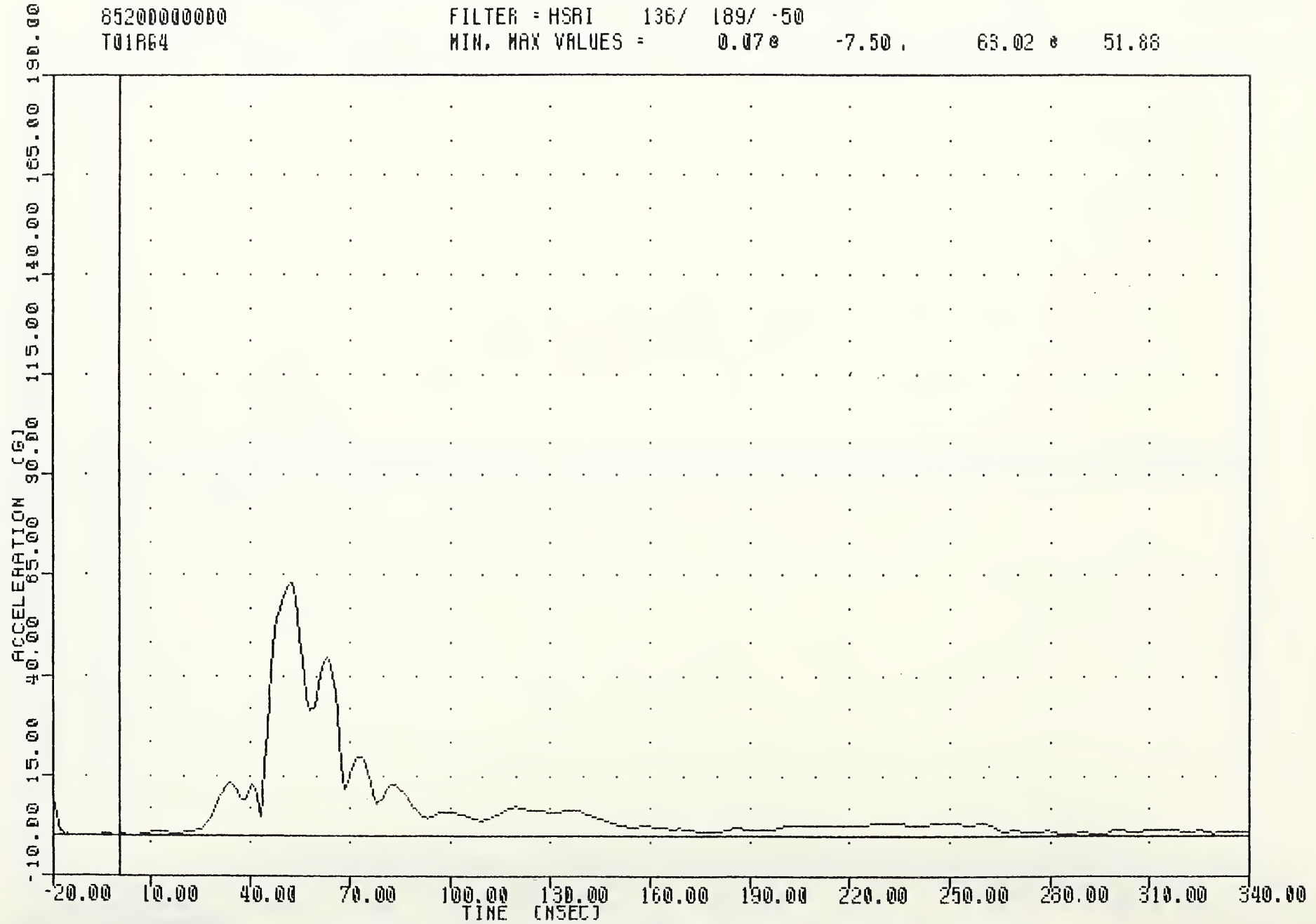


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER UPPER SPINE ACCELERATION -2 Y AXIS

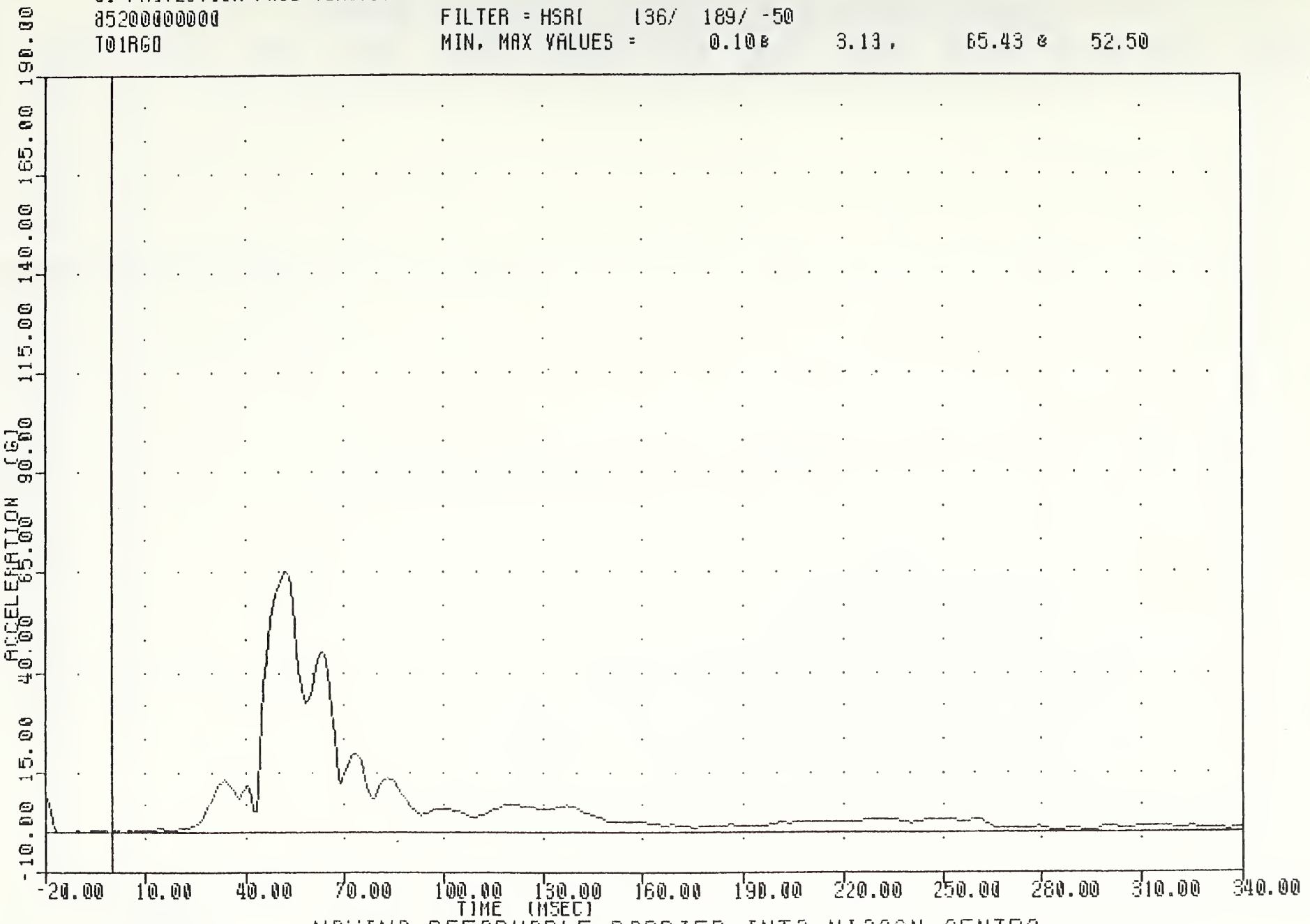


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER UPPER SPINE ACCELERATION Z AXIS

VAT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
852000000000 FILTER = HSRI 136/ 189/ -50
T01R64 MIN, MAX VALUES = 0.07@ -7.50, 63.02@ 51.88

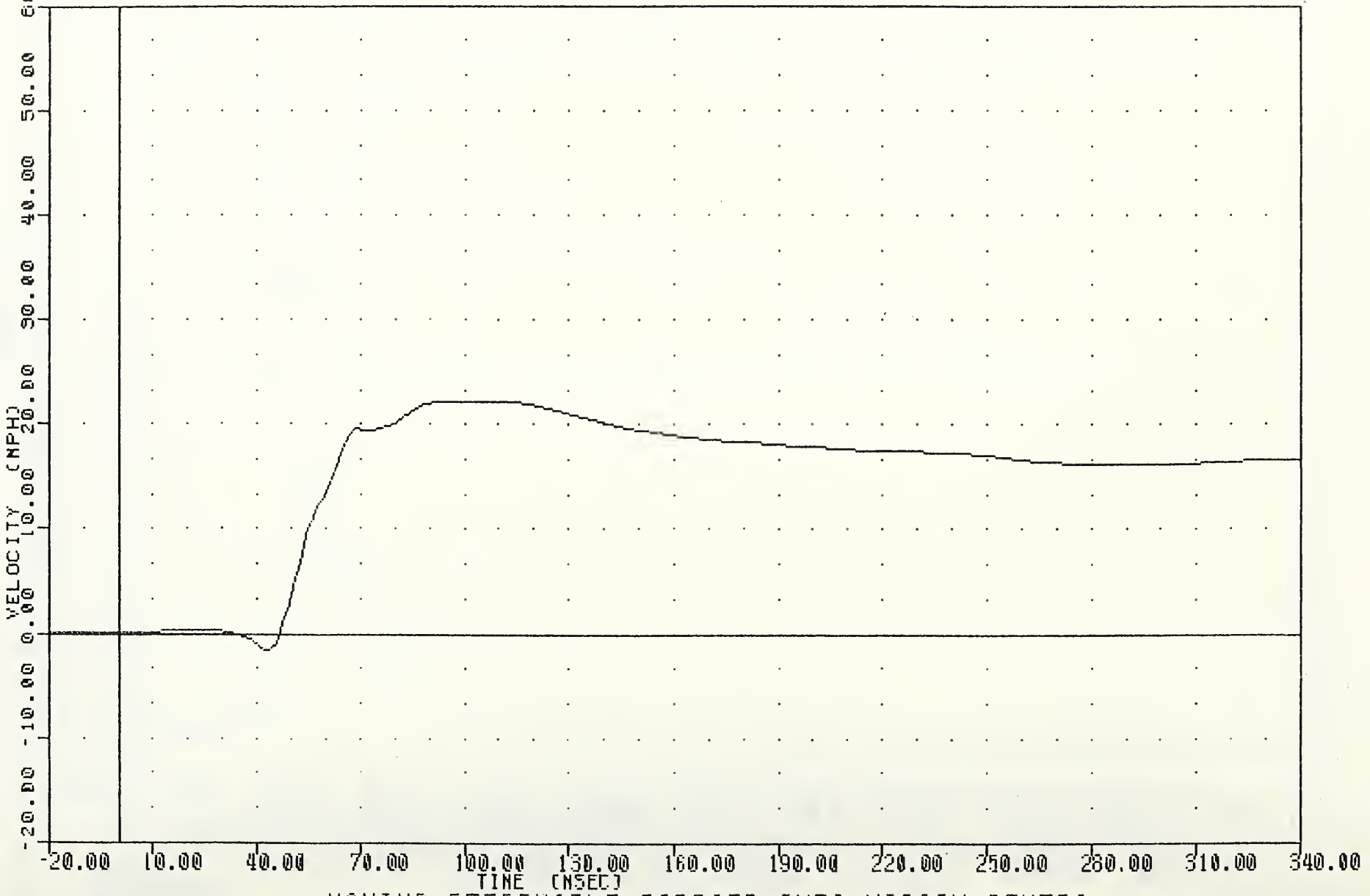


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER UPPER SPINE RESULTANT



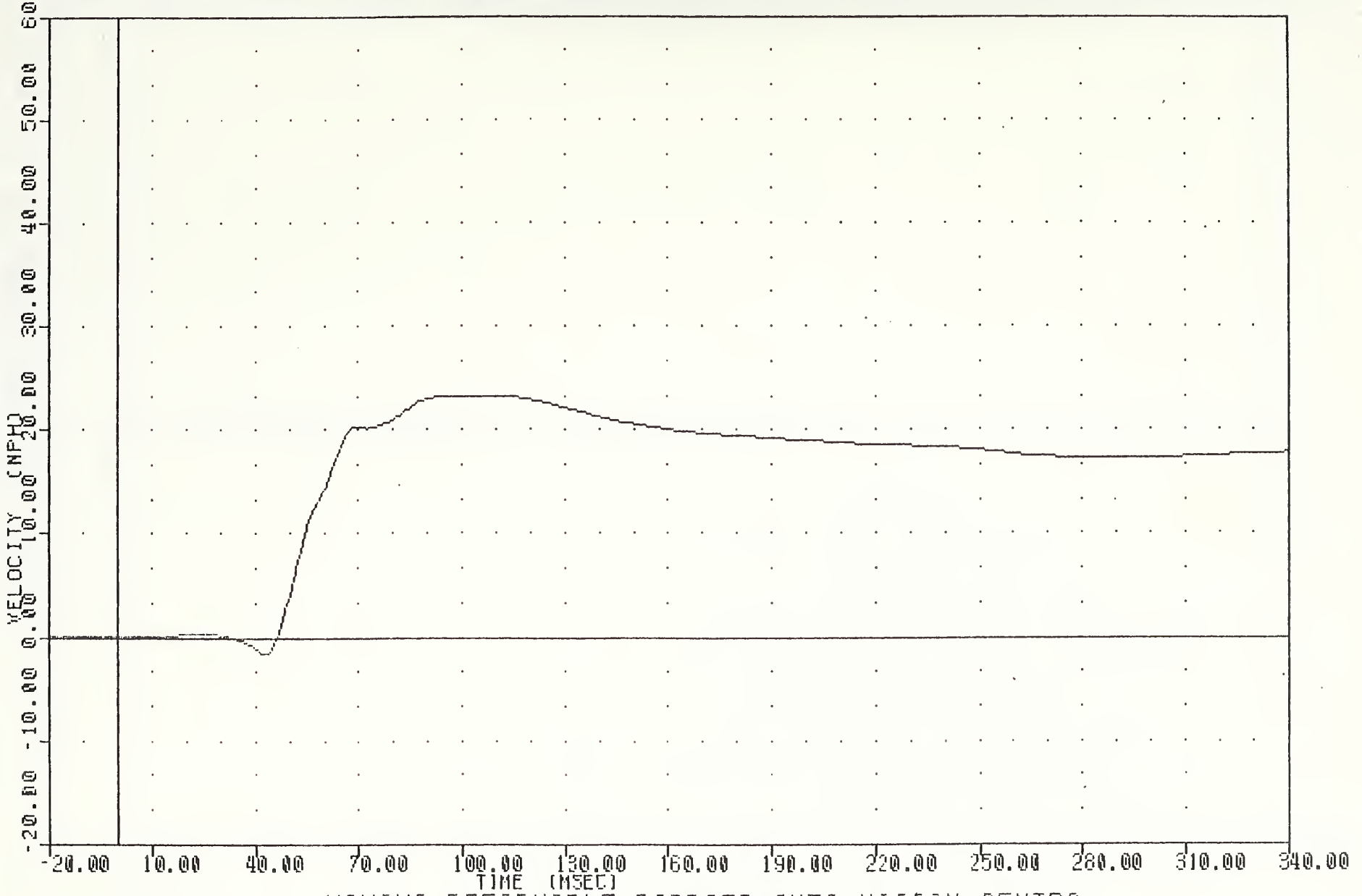
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER UPPER SPINE RESULTANT USING T01YGD

VAT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
8520000000 FILTER = HSRI 136/ 189/ -50
T01YV4 MIN, MAX VALUES = -1.61 @ 43.13 , 22.26 @ 104.38



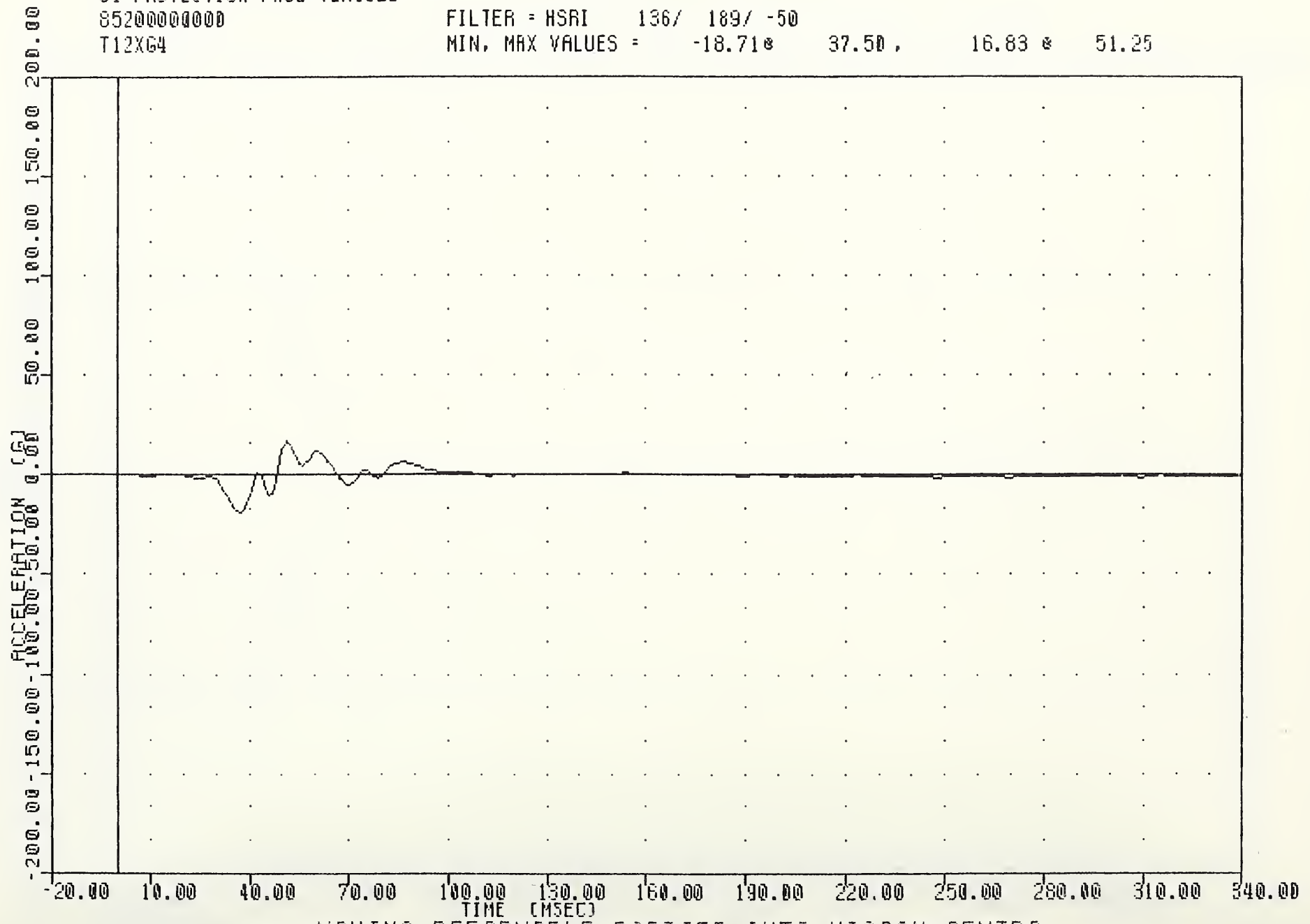
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING T01YG4

VRT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
852000000000 FILTER = HSRI 136/ 189/ -50
T01YVD MIN, MAX VALUES = -1.58 @ 43.13 , 23.27 @ 105.00

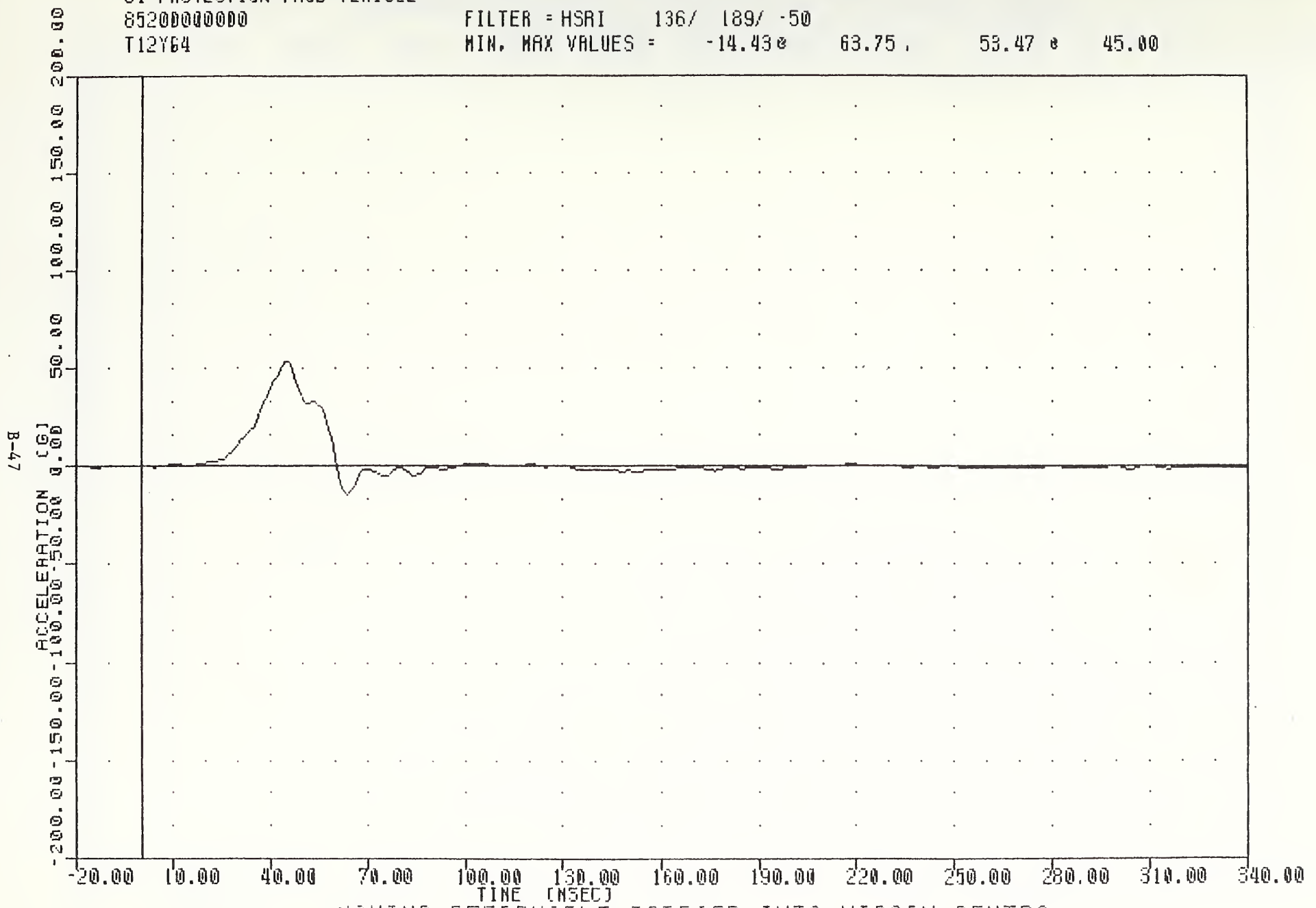


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING T01YGD

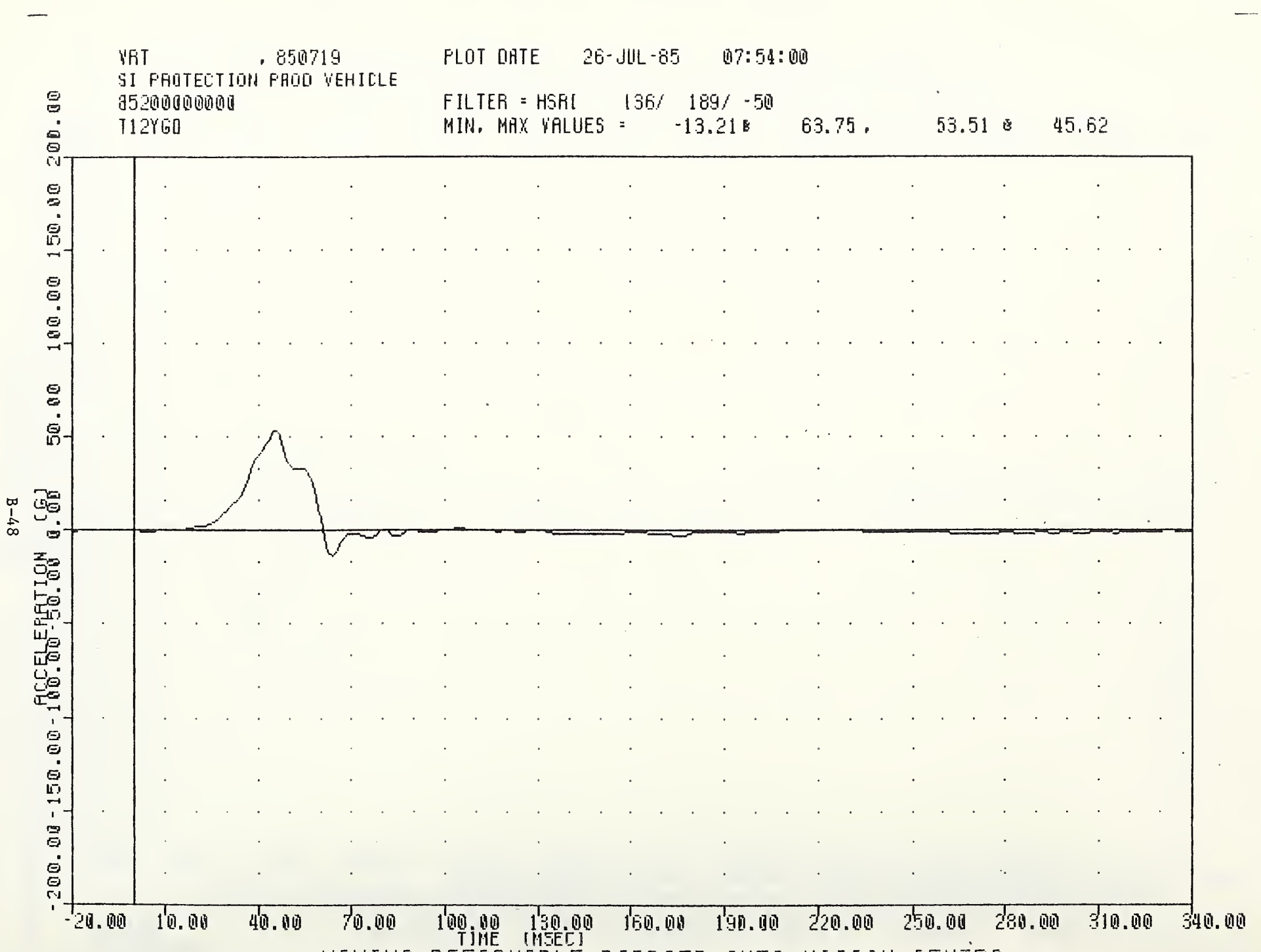
VRT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
8520000@000 FILTER = HSRI 136/ 189/ -50
T12XG4 MIN, MAX VALUES = -18.71@ 37.50 , 16.83 @ 51.25



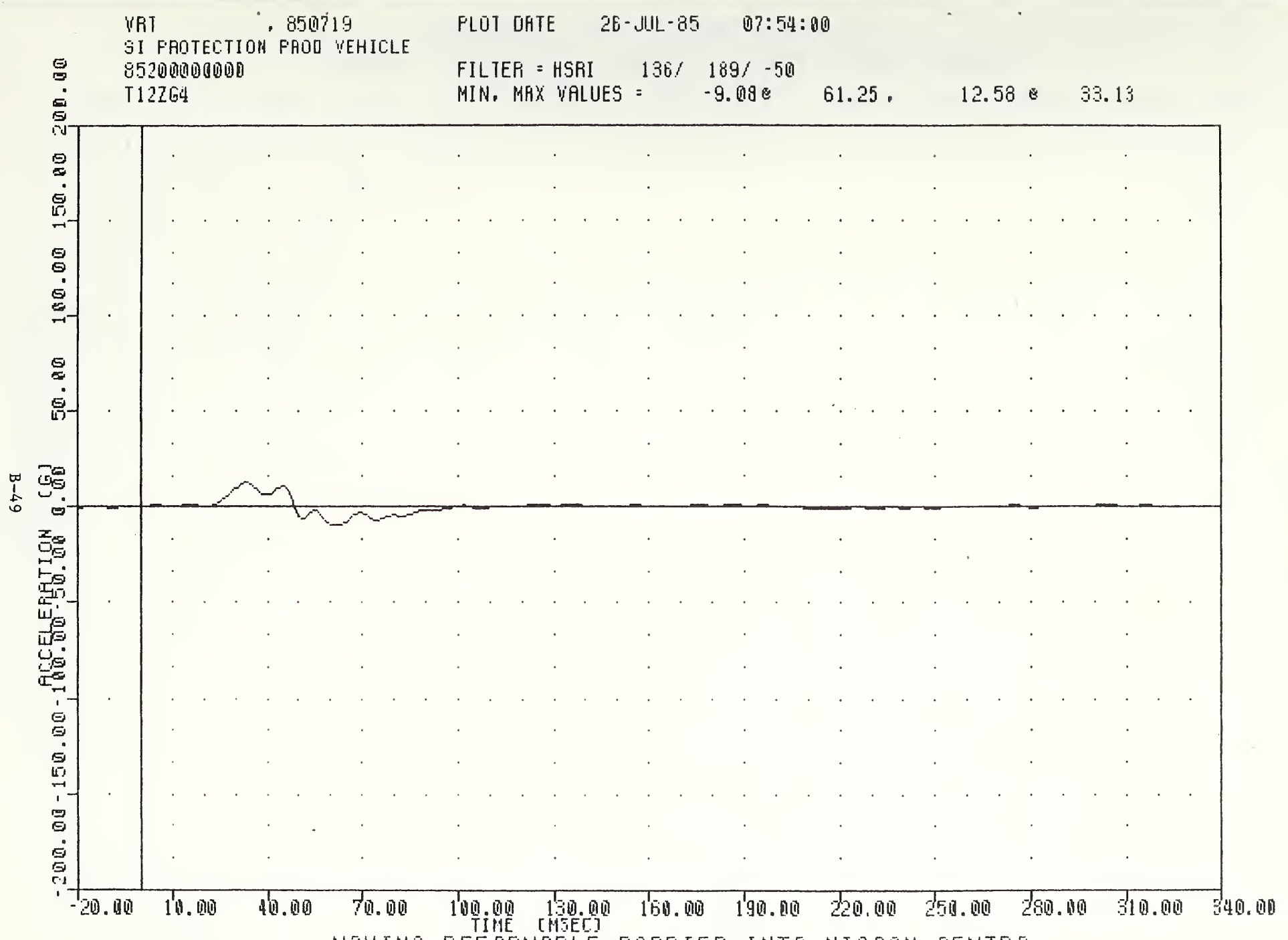
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LOWER SPINE ACCELERATION X AXIS



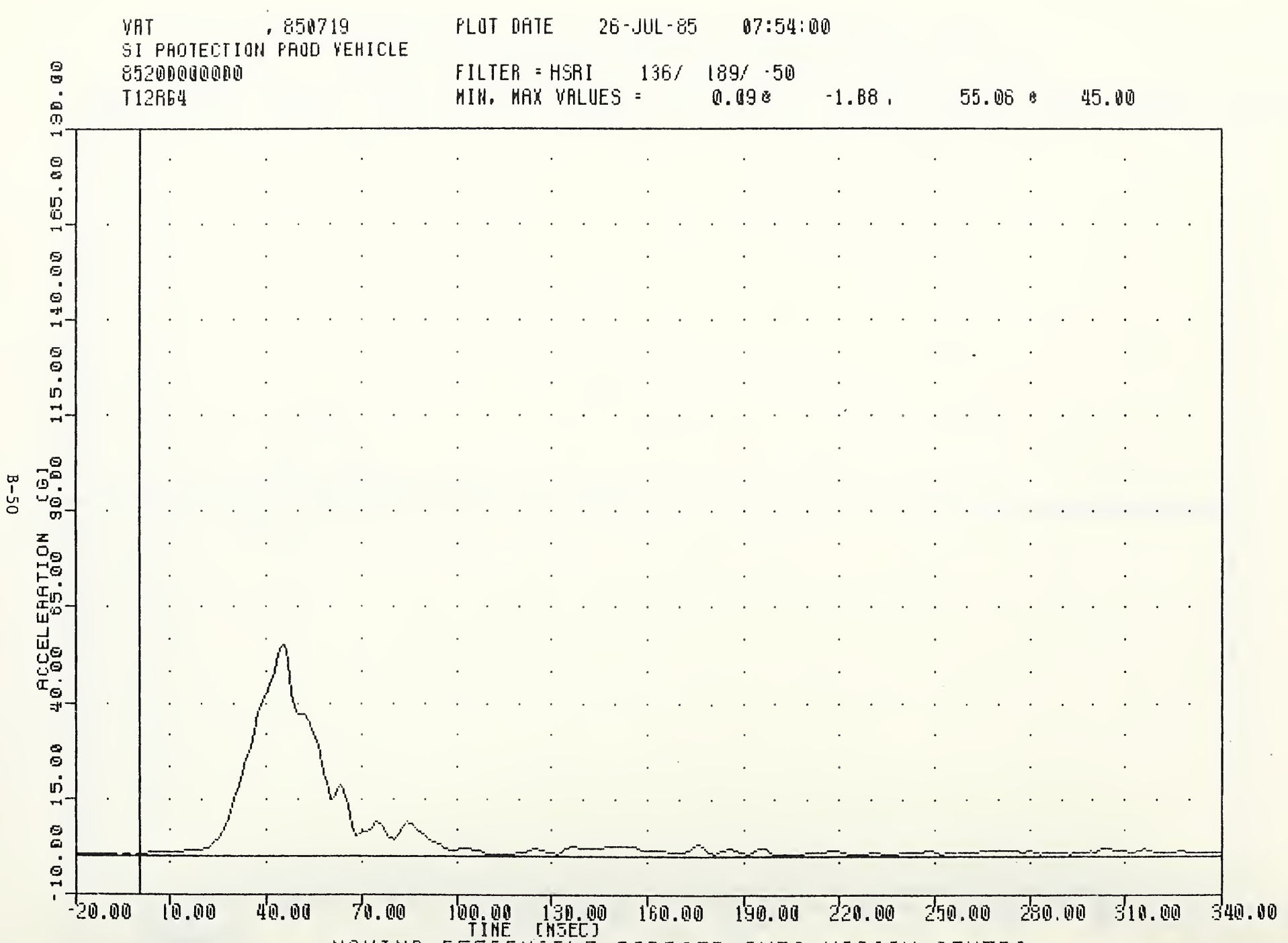
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LOWER SPINE ACCELERATION Y AXIS



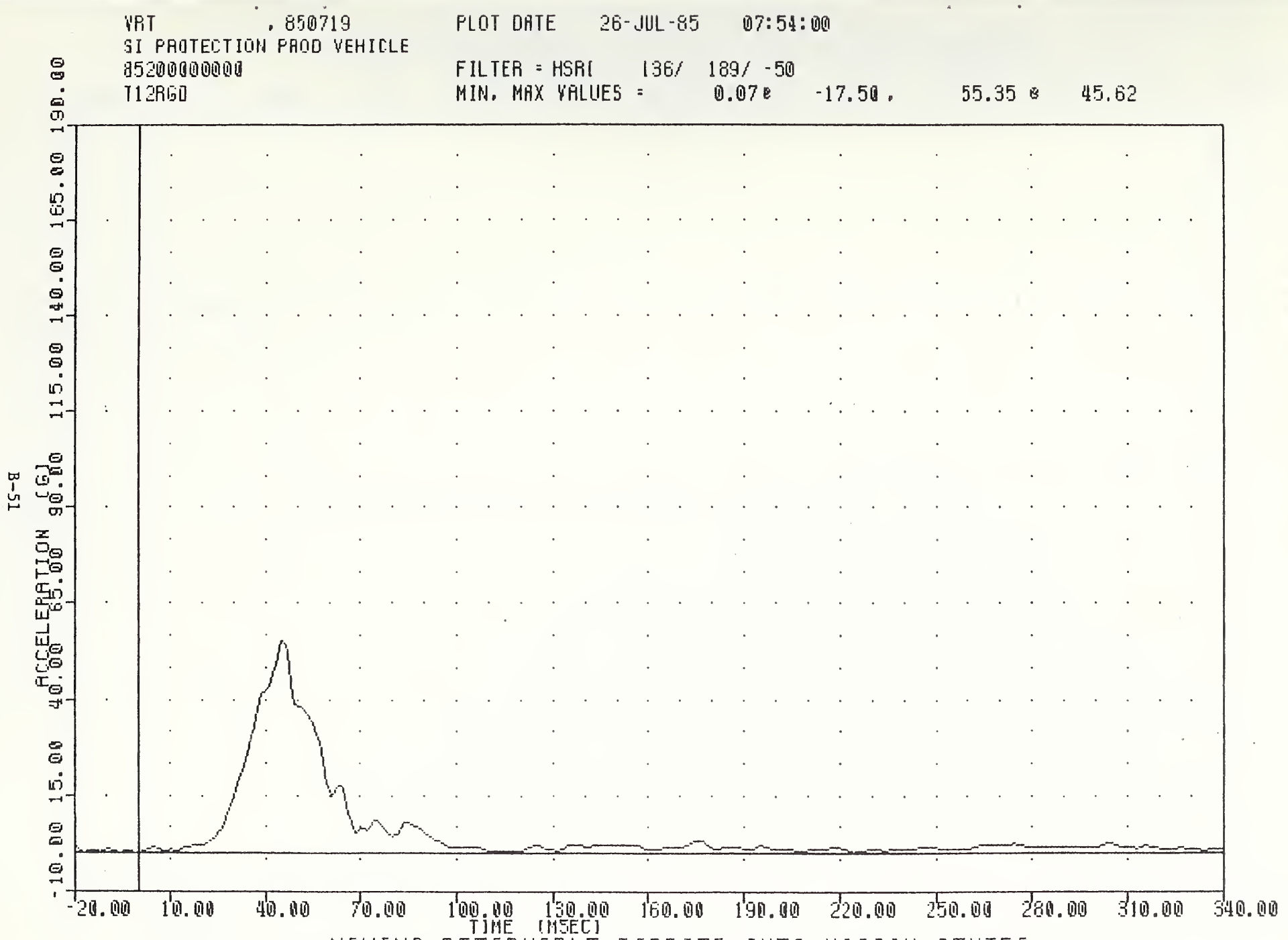
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LOWER SPINE ACCELERATION -2 Y AXIS



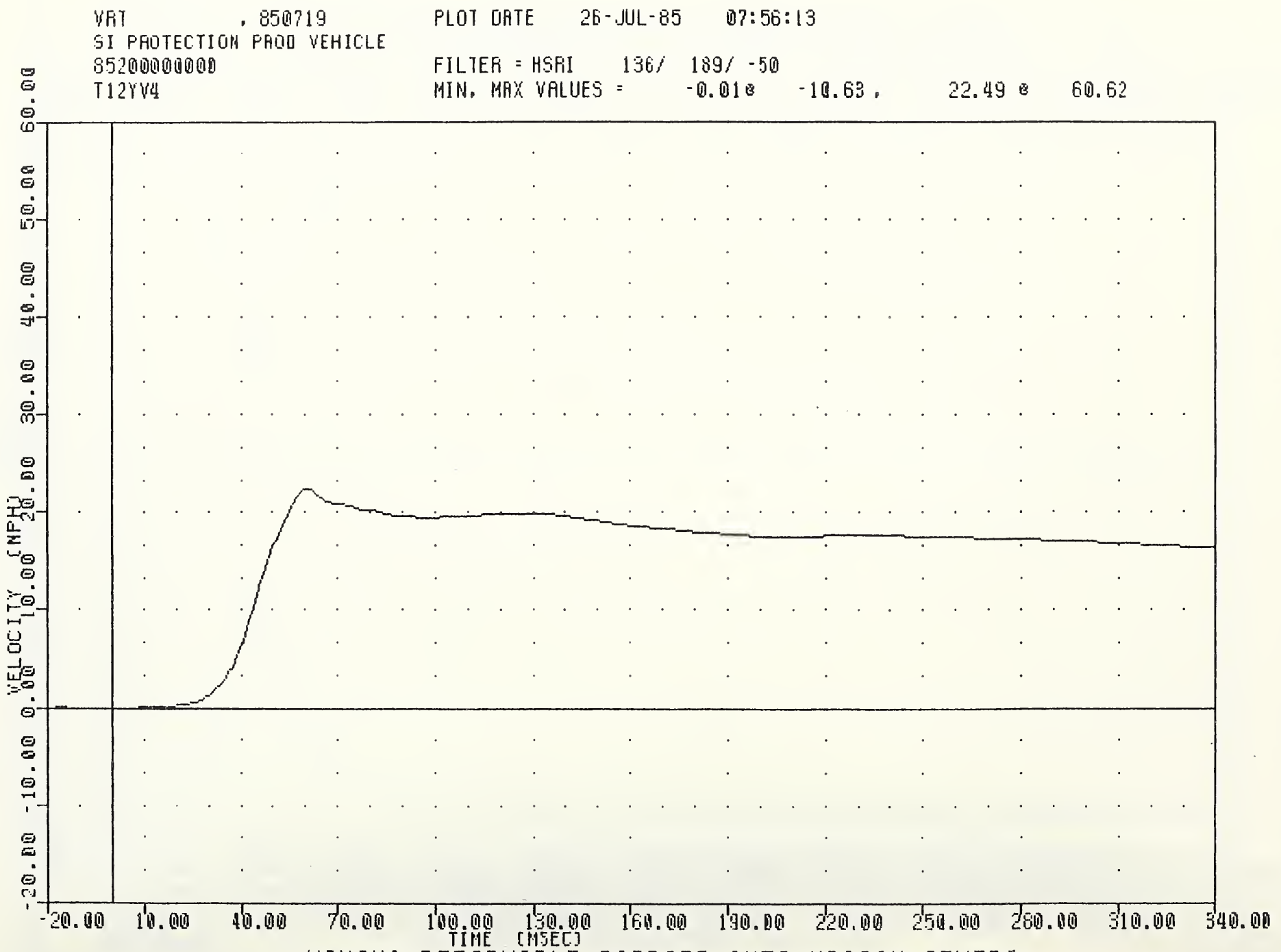
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LOWER SPINE ACCELERATION Z AXIS



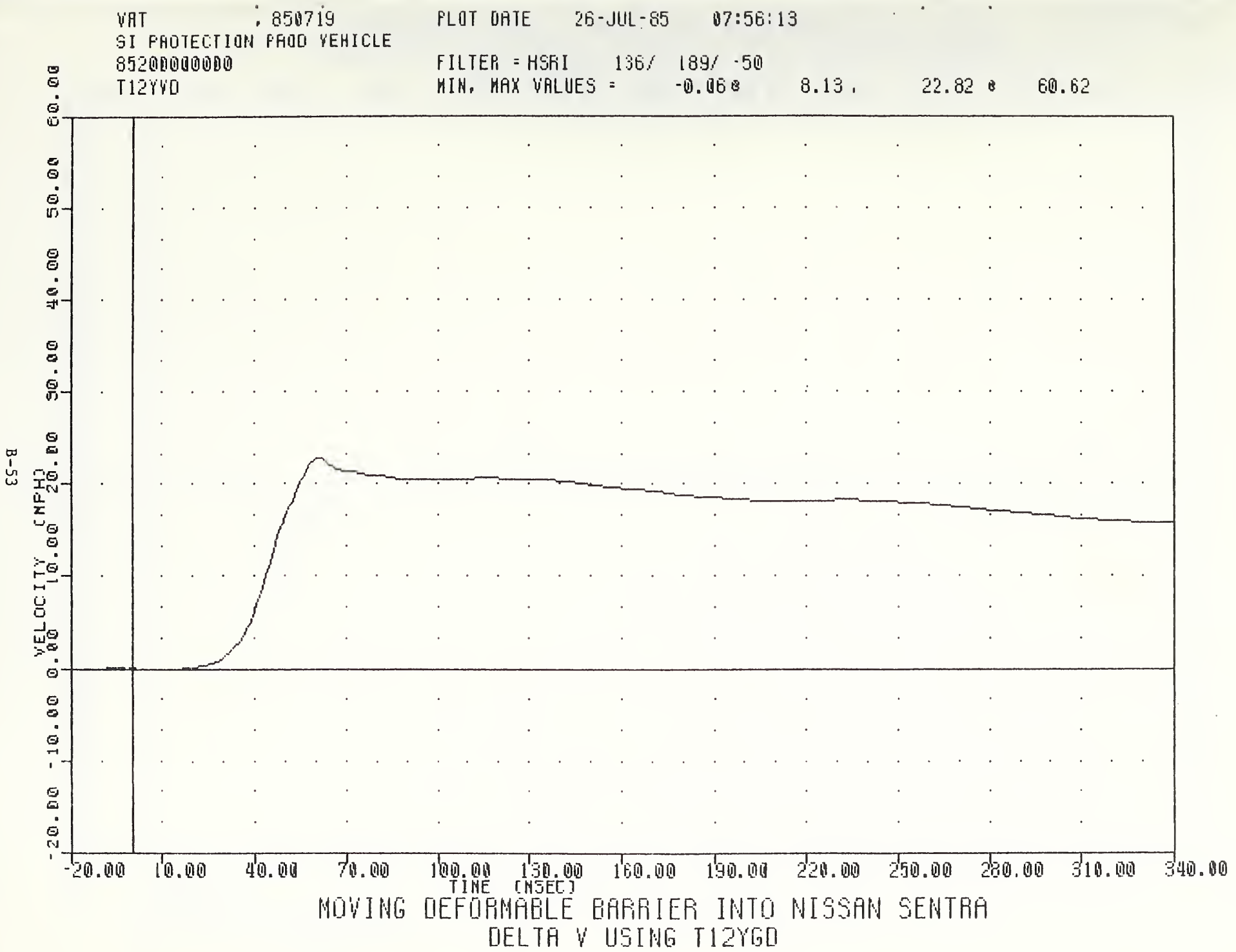
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LOWER SPINE RESULTANT



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LOWER SPINE RESULTANT USING T12YGD

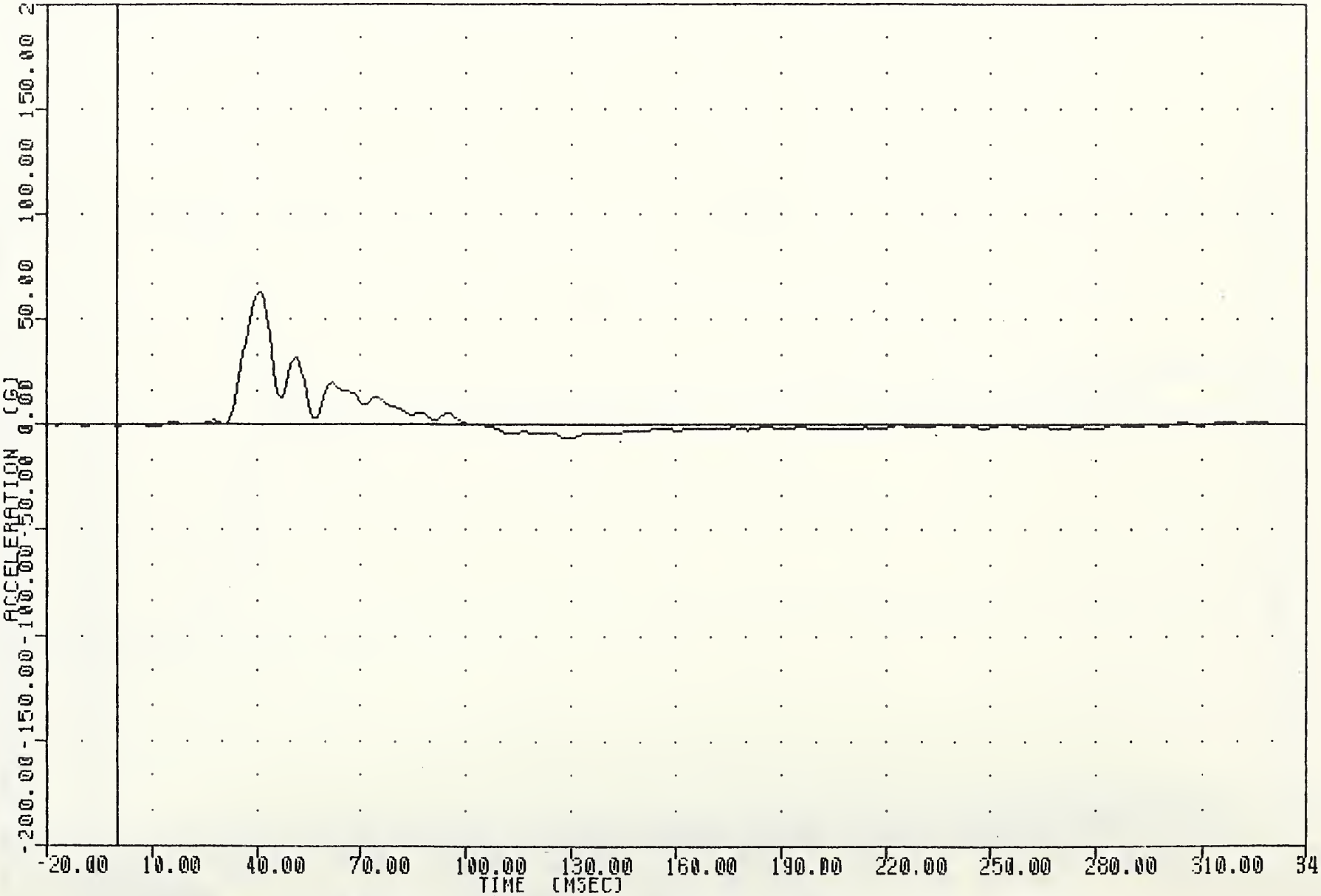


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING T12YG4



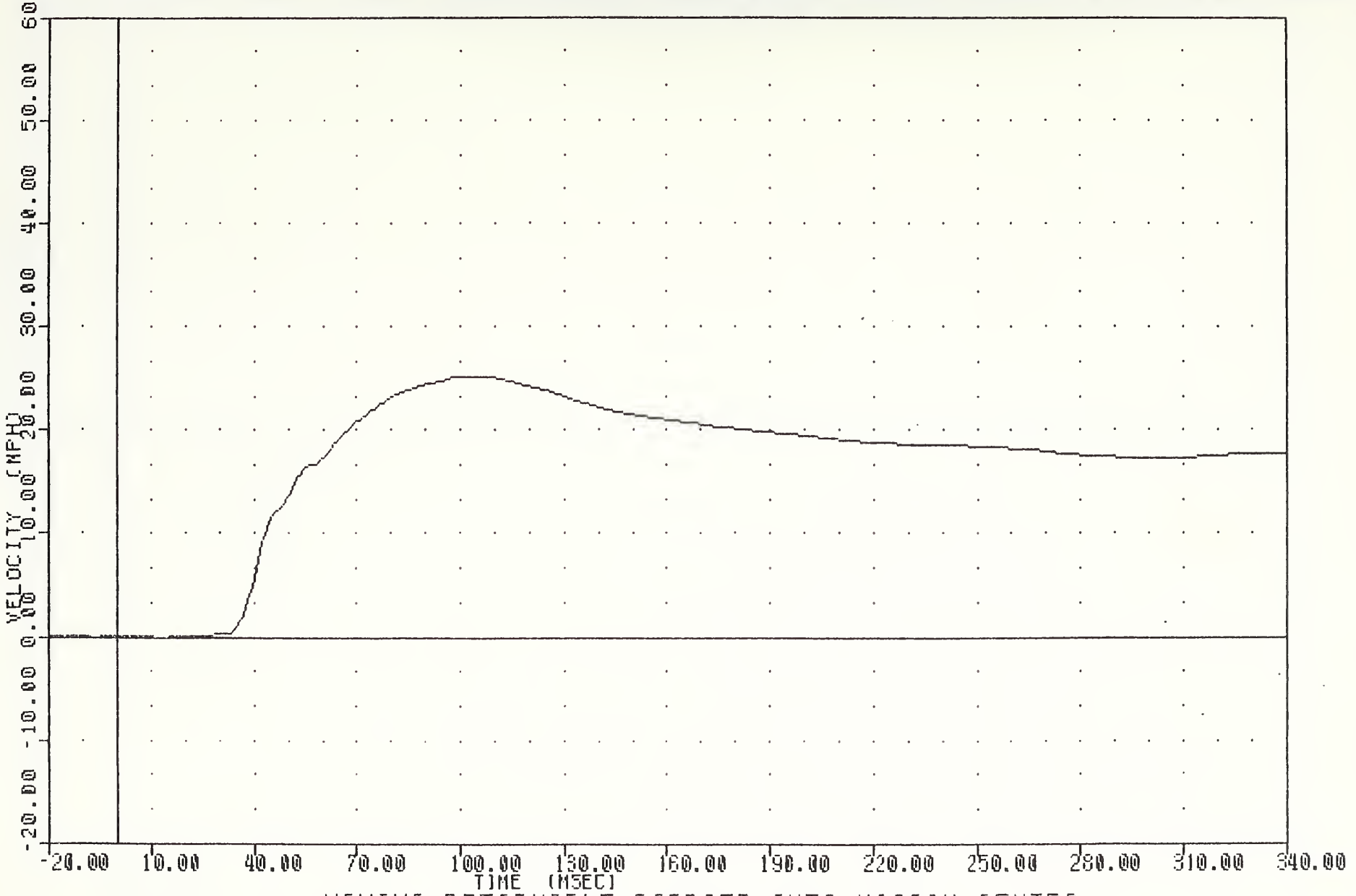
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING T12YGD

VRT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
85200000000 FILTER = HSRI 136/ 189/ -50
LURYG4 MIN, MAX VALUES = -6.17@ 129.38 , 63.34 @ 41.25

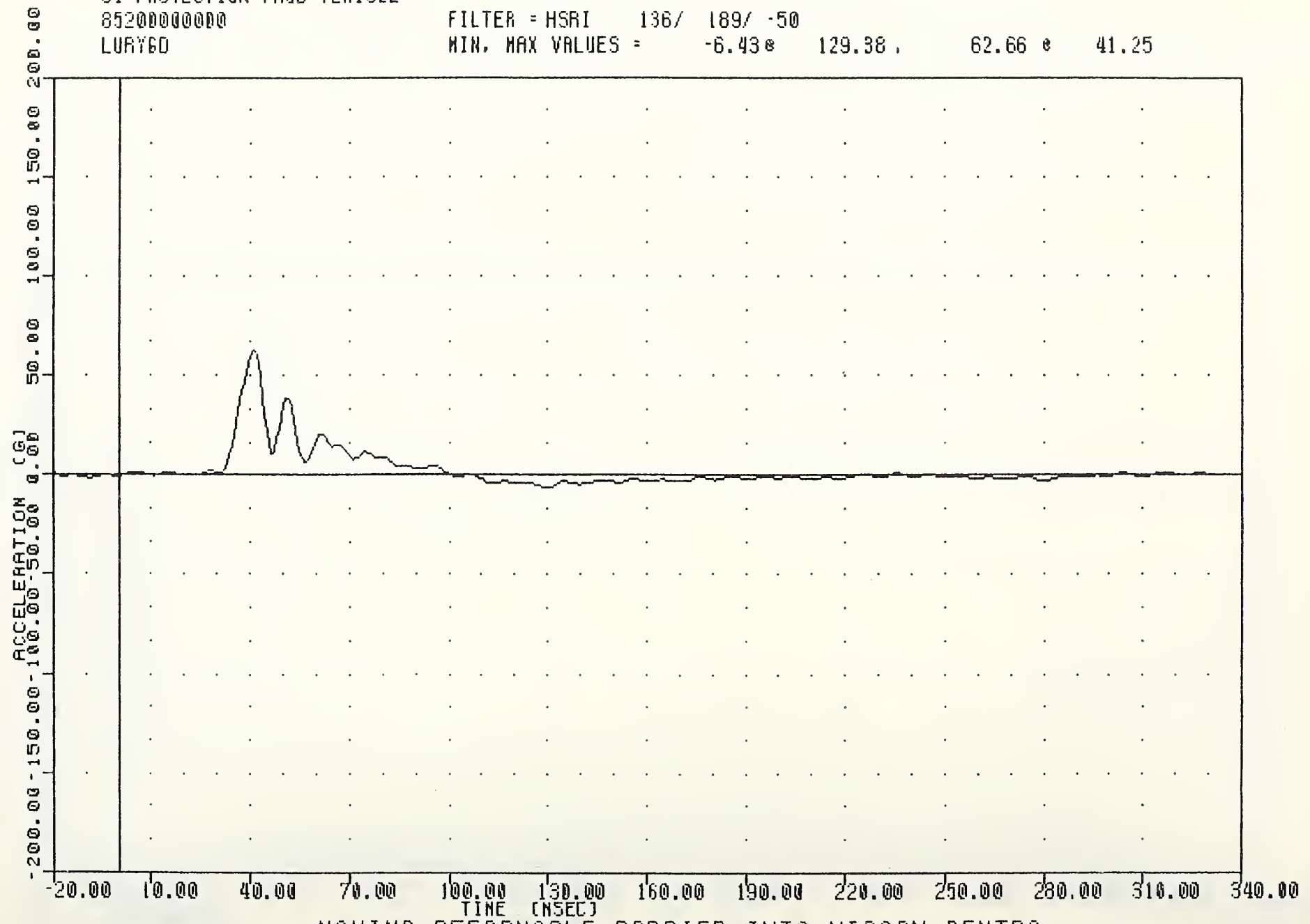


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LEFT UPPER RIB ACCELERATION Y AXIS

VRT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
8520000000 FILTER = HSR(136/ 189/ -50
LURYV4 MIN, MAX VALUES = -0.01 @ 13.13 , 25.18 @ 102.50

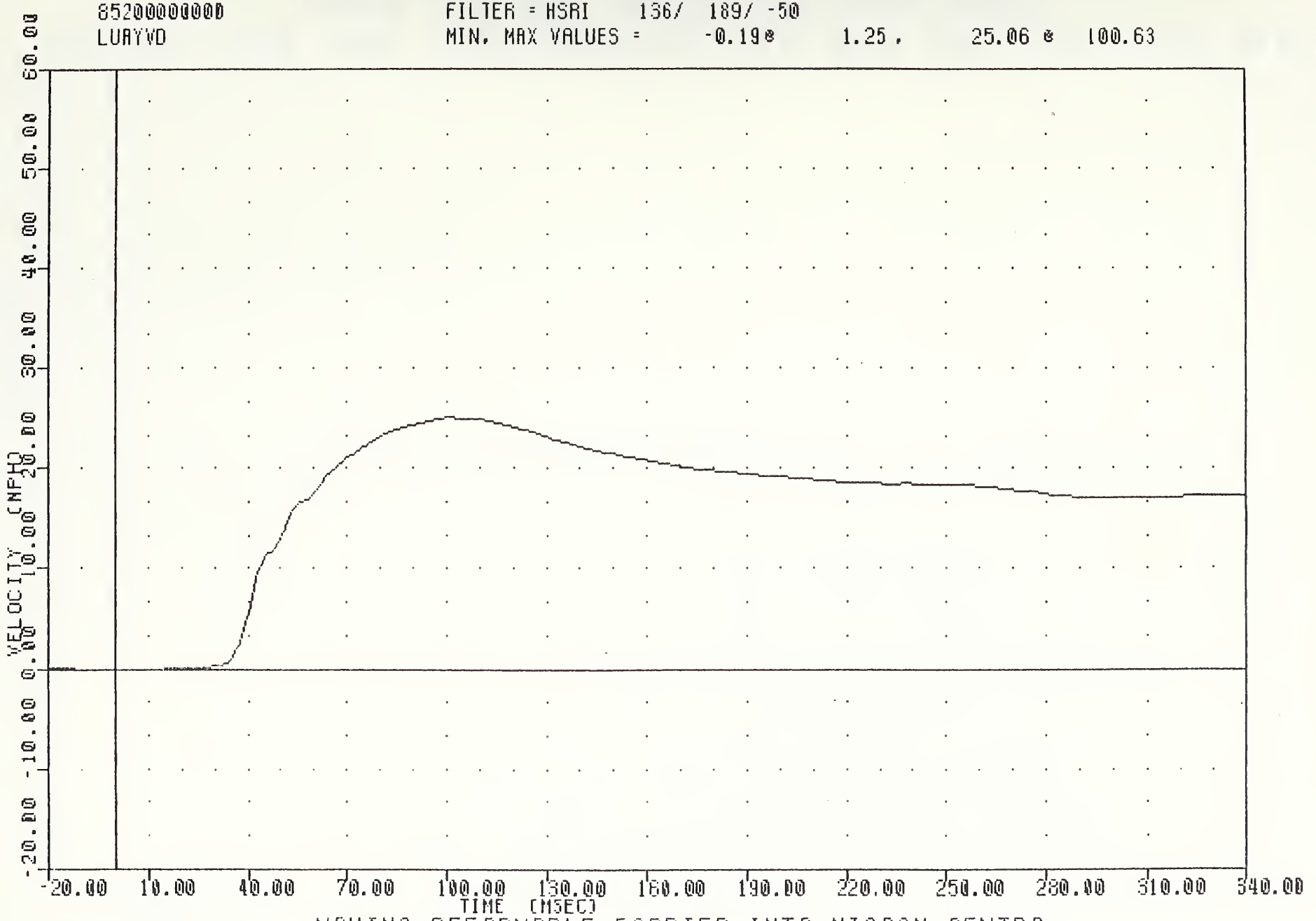


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LURYG4

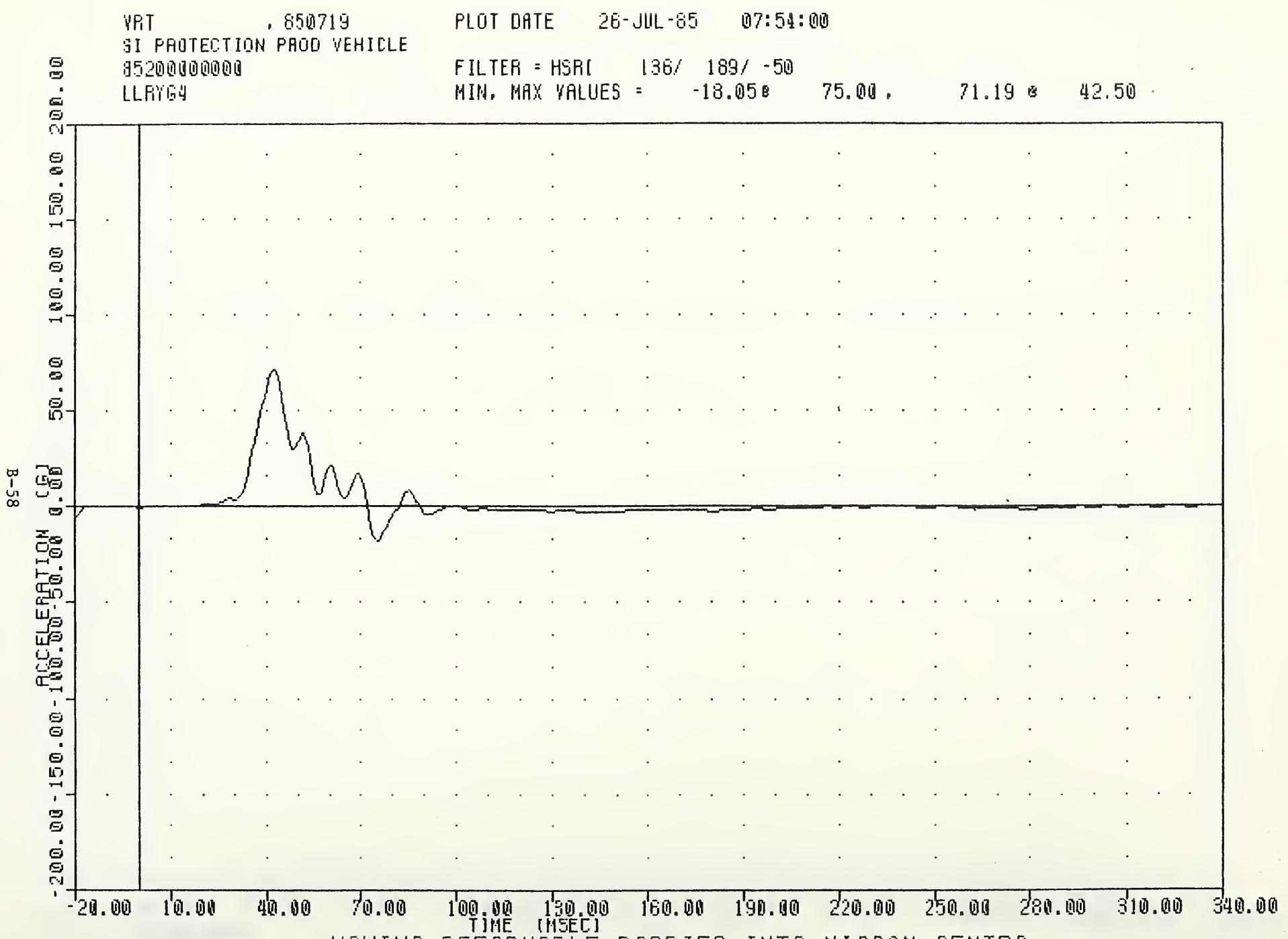


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LEFT UPPER RIB ACCELERATION -2 Y AXIS

VRT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
85200000000 FILTER = HSRI 136/ 189/ -50
LURYVD MIN. MAX VALUES = -0.19@ 1.25 , 25.06 @ 100.63

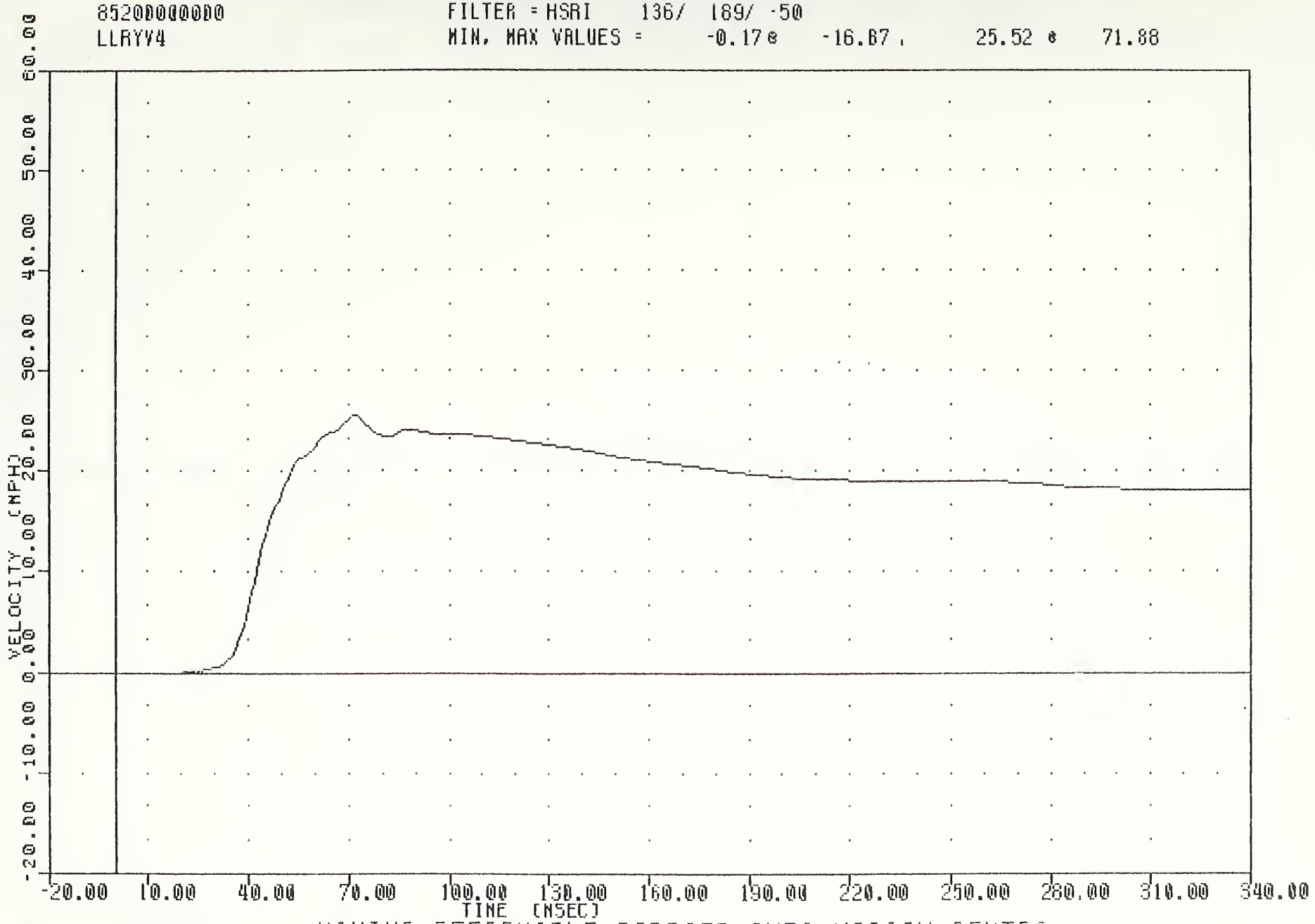


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LURYGD



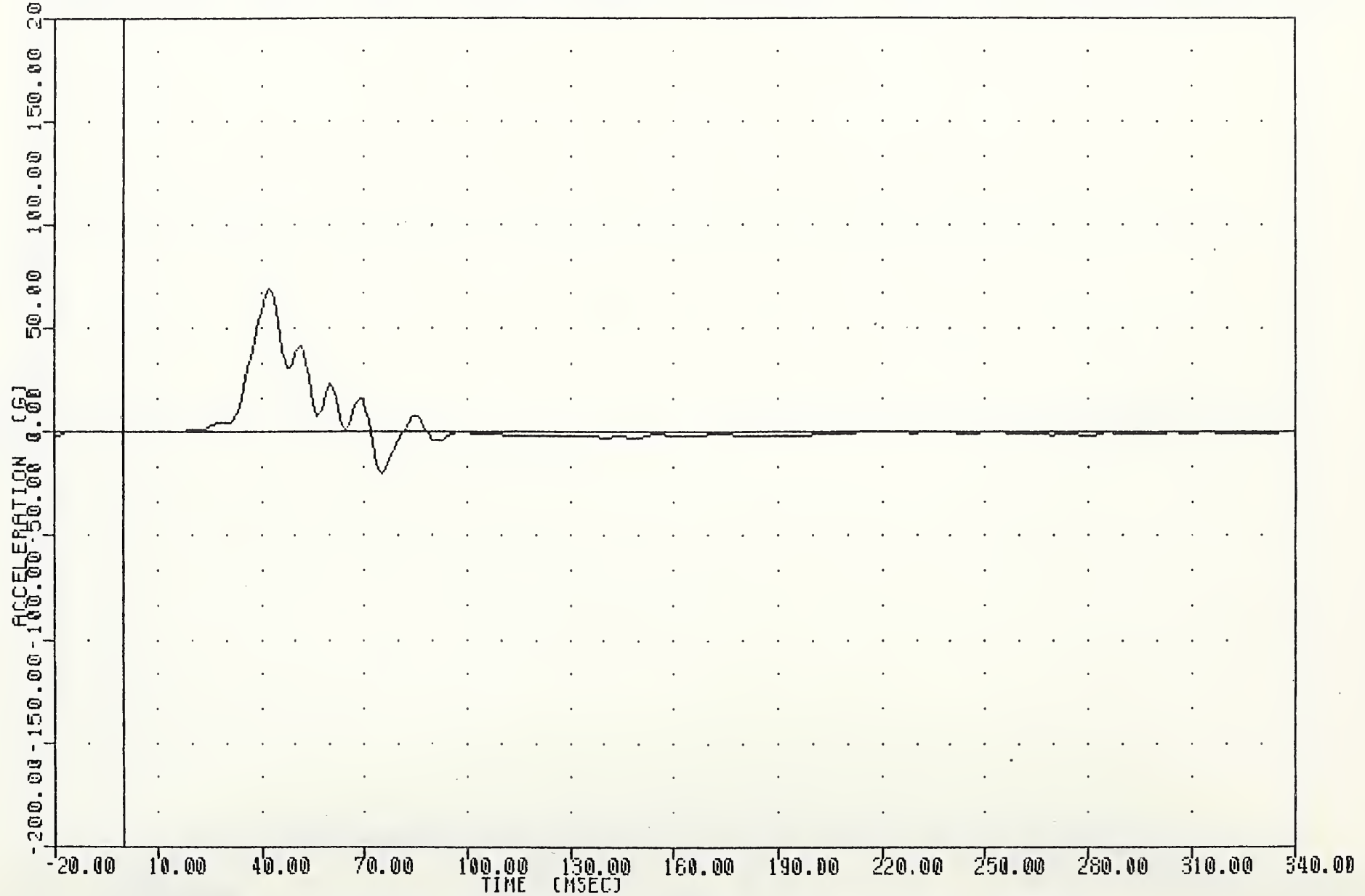
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LEFT LOWER RIB ACCELERATION Y AXIS

VRT , 850719 PLOT DATE 26-JUL-85 07:56:13
SI PROTECTION PROD VEHICLE
8520000000D FILTER = HSRI 136/ 189/ -50
LLRYV4 MIN, MAX VALUES = -0.17 @ -16.87 , 25.52 @ 71.88

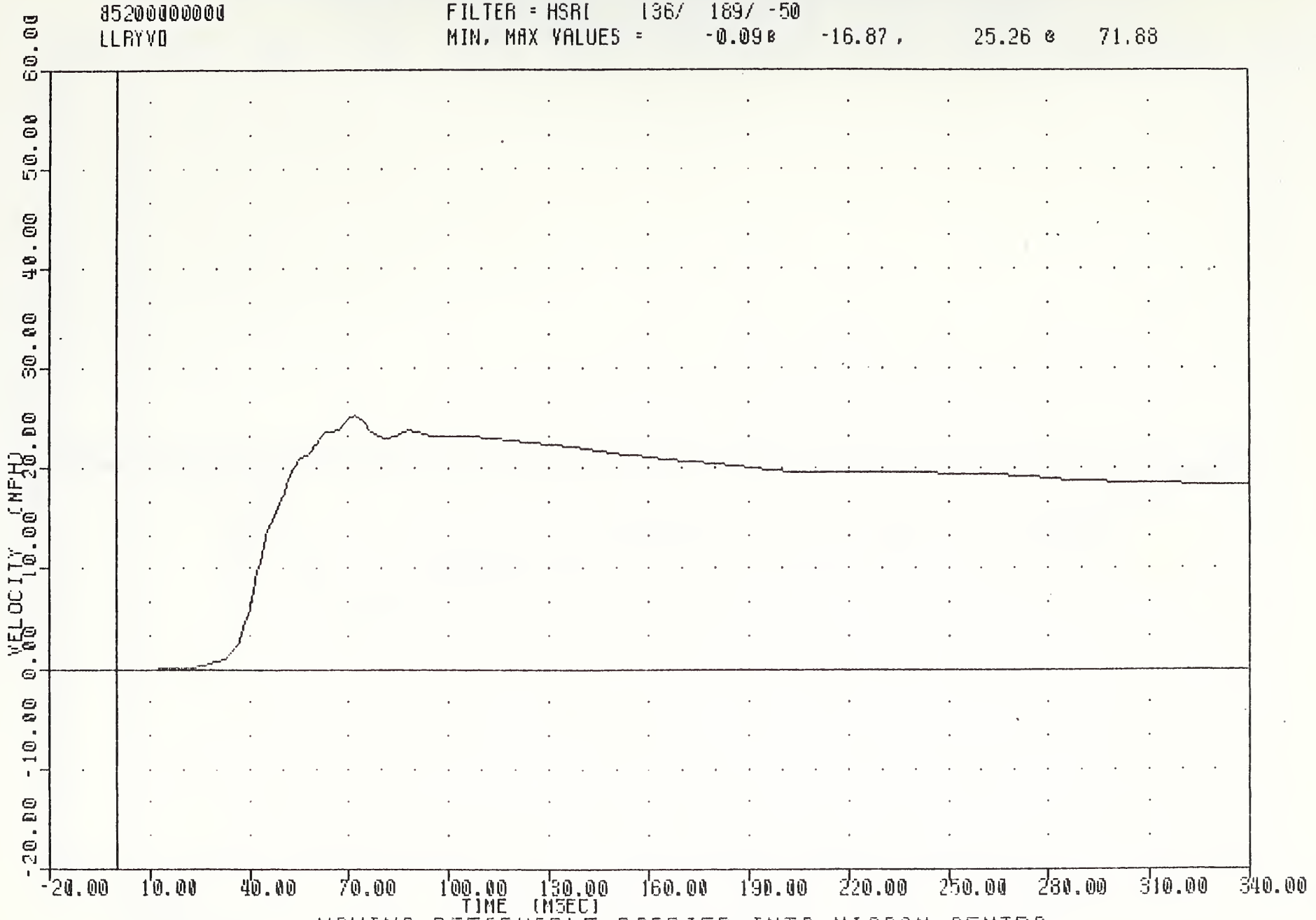


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LLRYG4

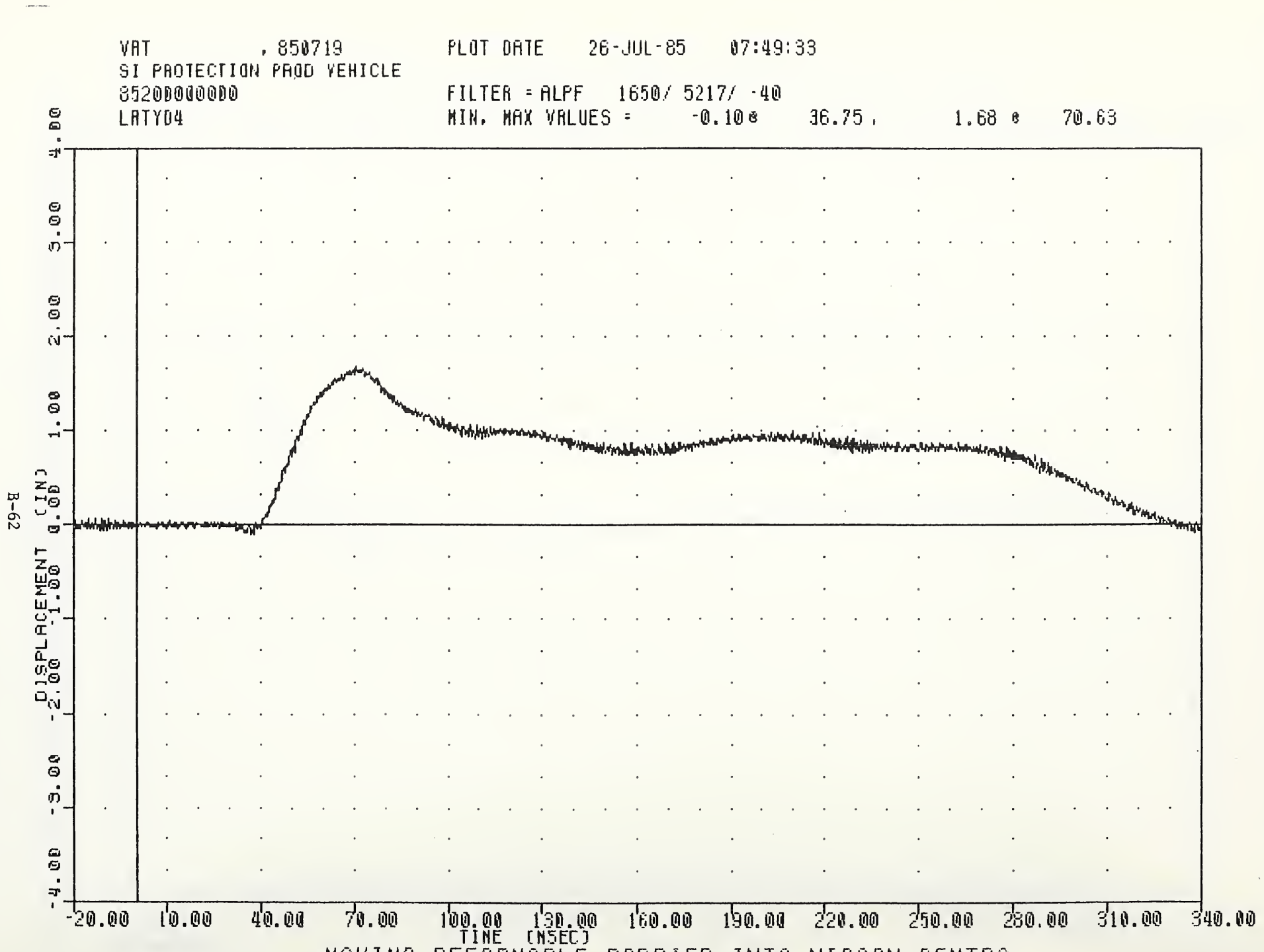
VRT , 850719 PLOT DATE 26-JUL-85 07:54:00
SI PROTECTION PROD VEHICLE
8520000000D FILTER = HSRI 136/ 189/ -50
LLAYGD MIN. MAX VALUES = -19.37@ 75.00 , 69.04 @ 42.50



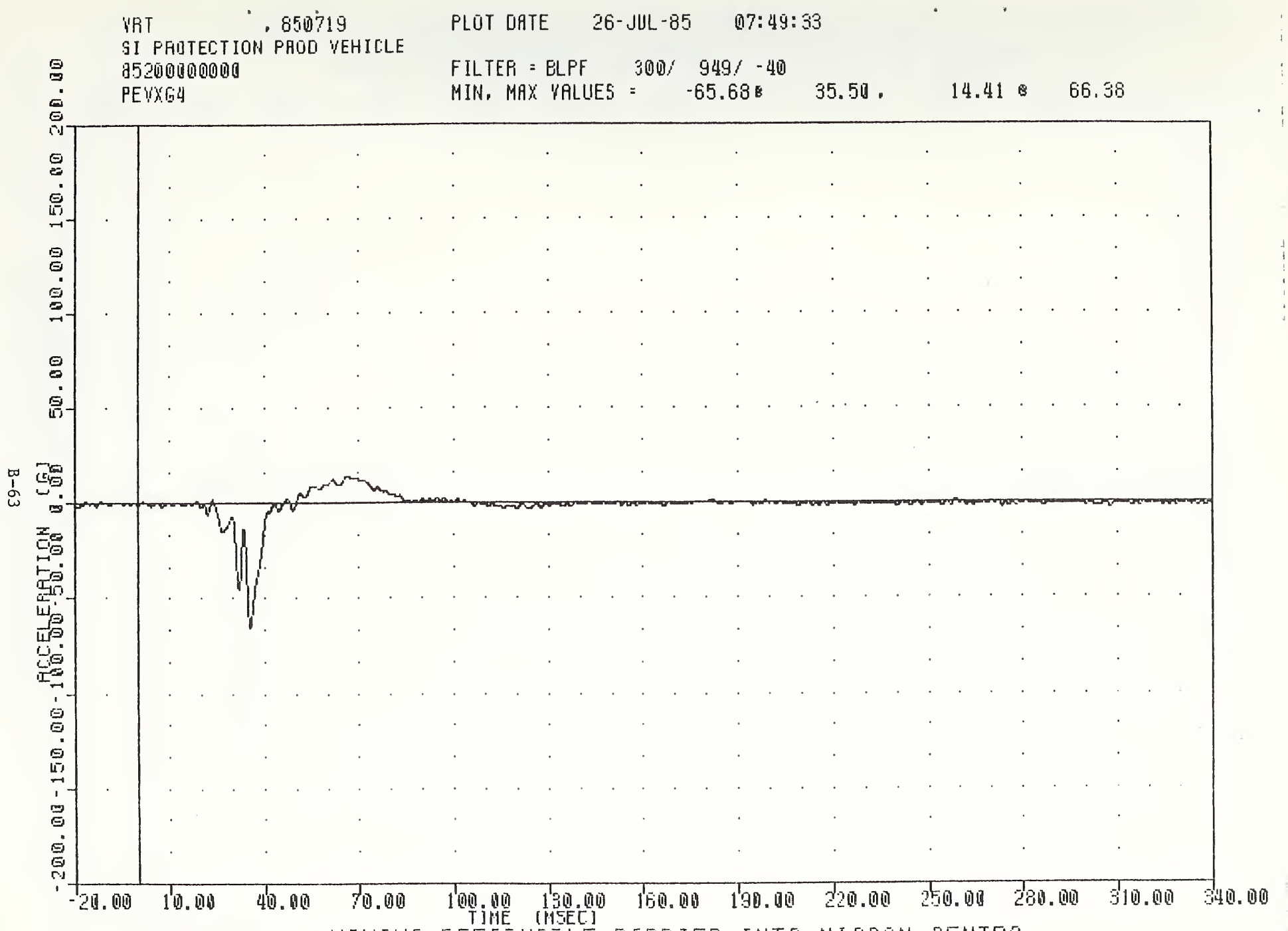
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LEFT LOWER RIB ACCELERATION -2 Y AXIS



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LLRYGD

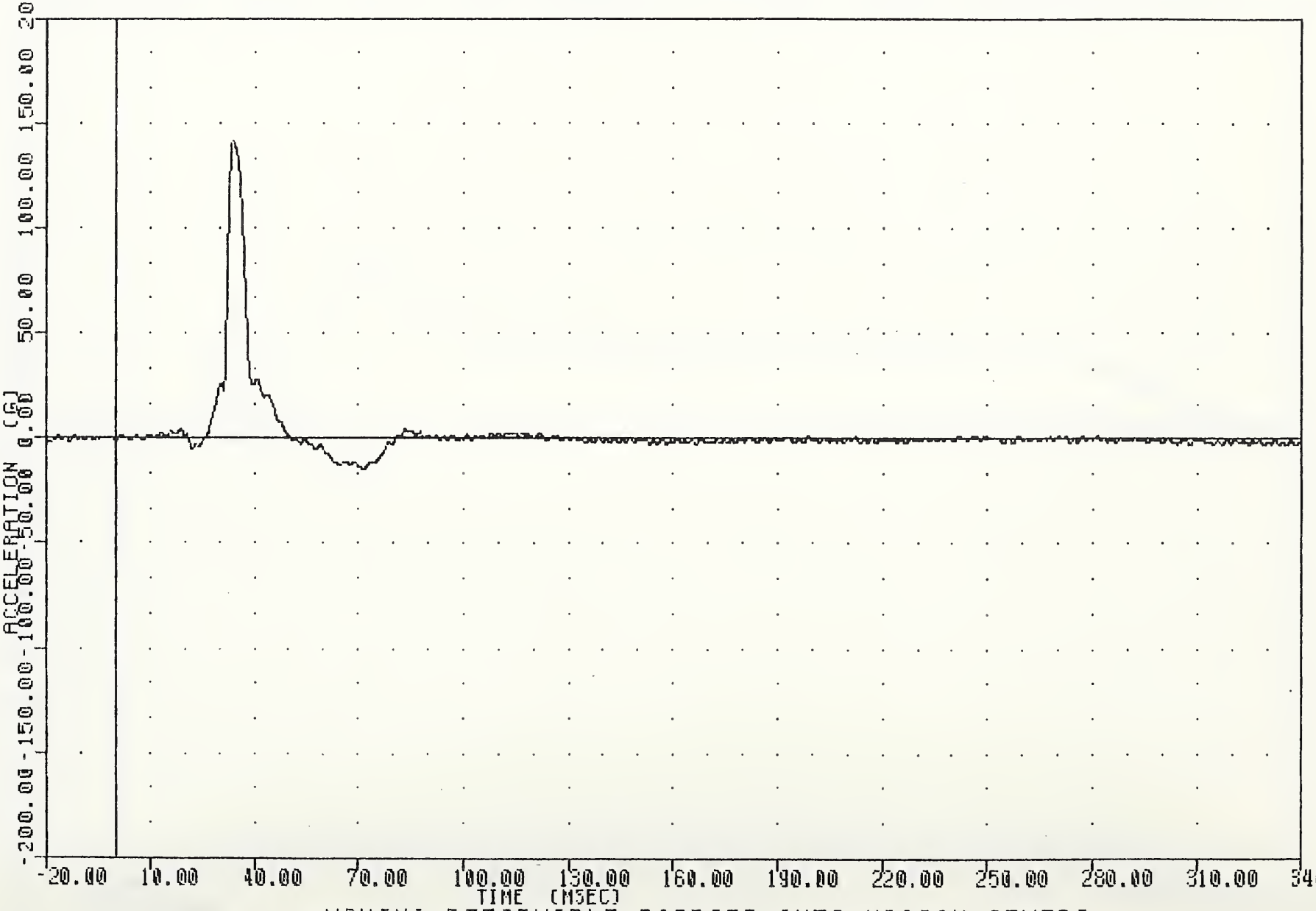


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER LEFT RIB TO SPINE DISPLACEMENT INCHES

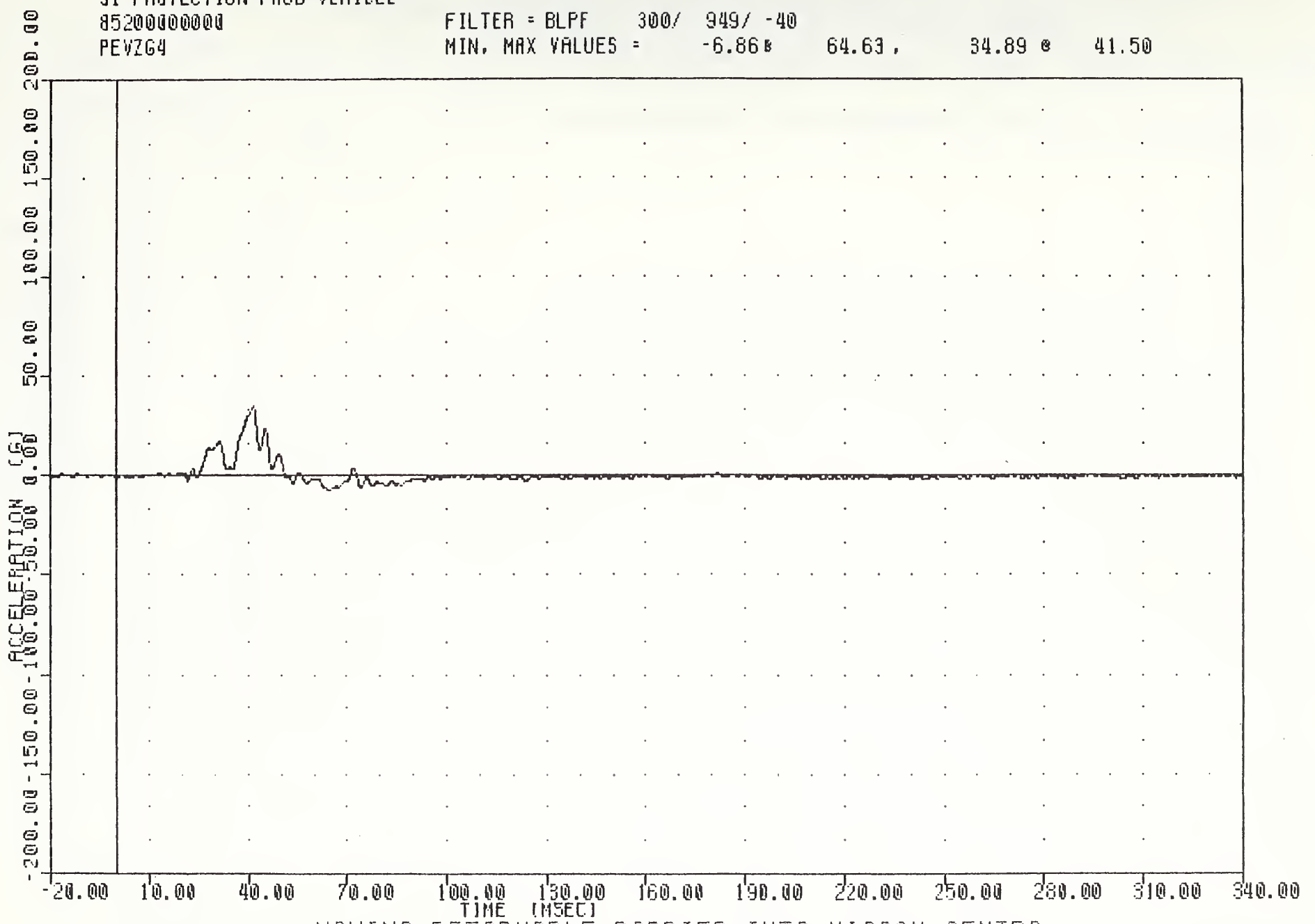


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER PELVIS ACCELERATION X AXIS

VRT , 850719 PLOT DATE 26-JUL-85 07:49:33
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 300/ 949/ -40
PEVYG4 MIN. MAX VALUES = -14.25@ 71.63 , 141.29 @ 33.88

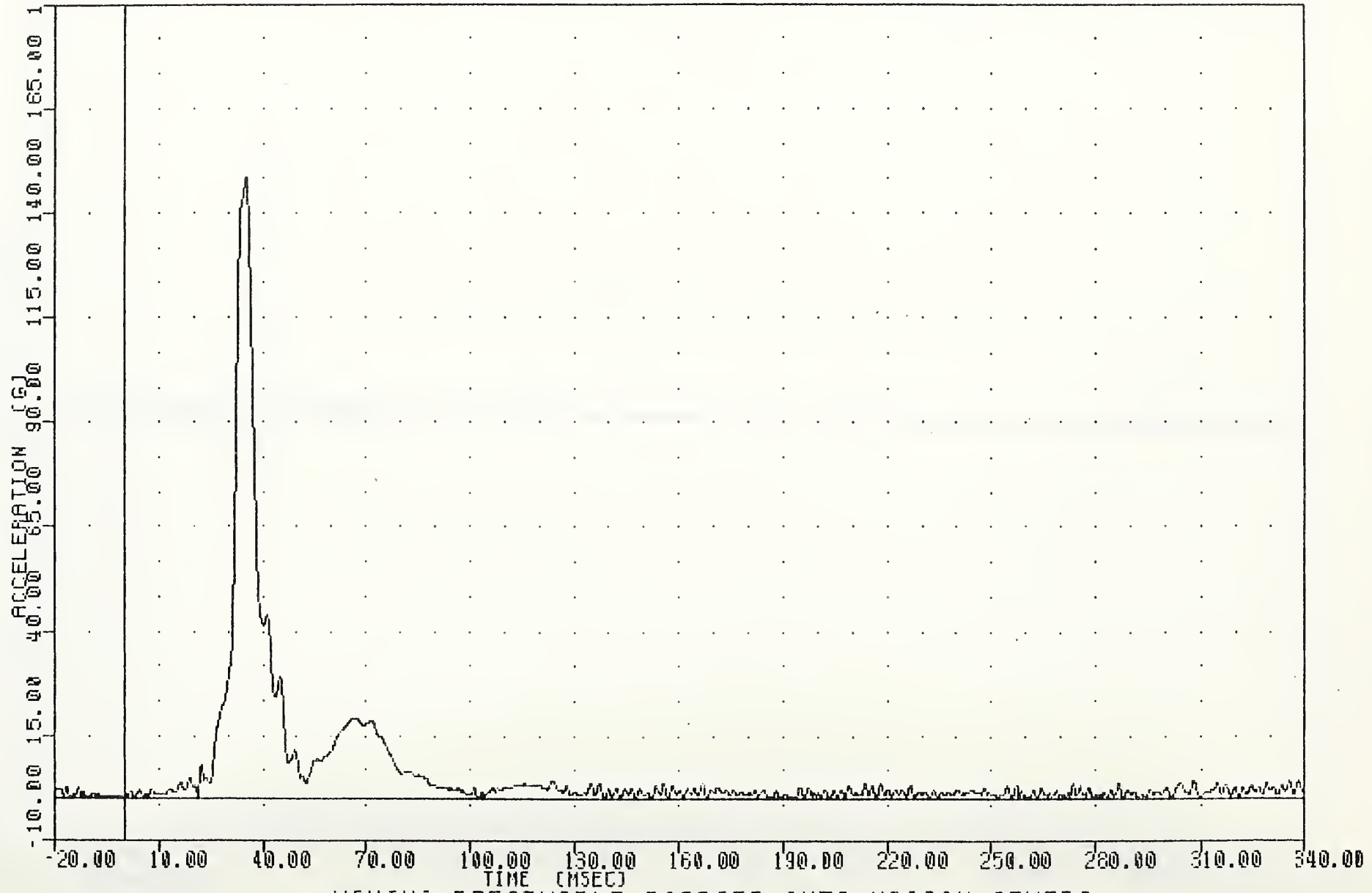


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER PELVIS ACCELERATION Y AXIS



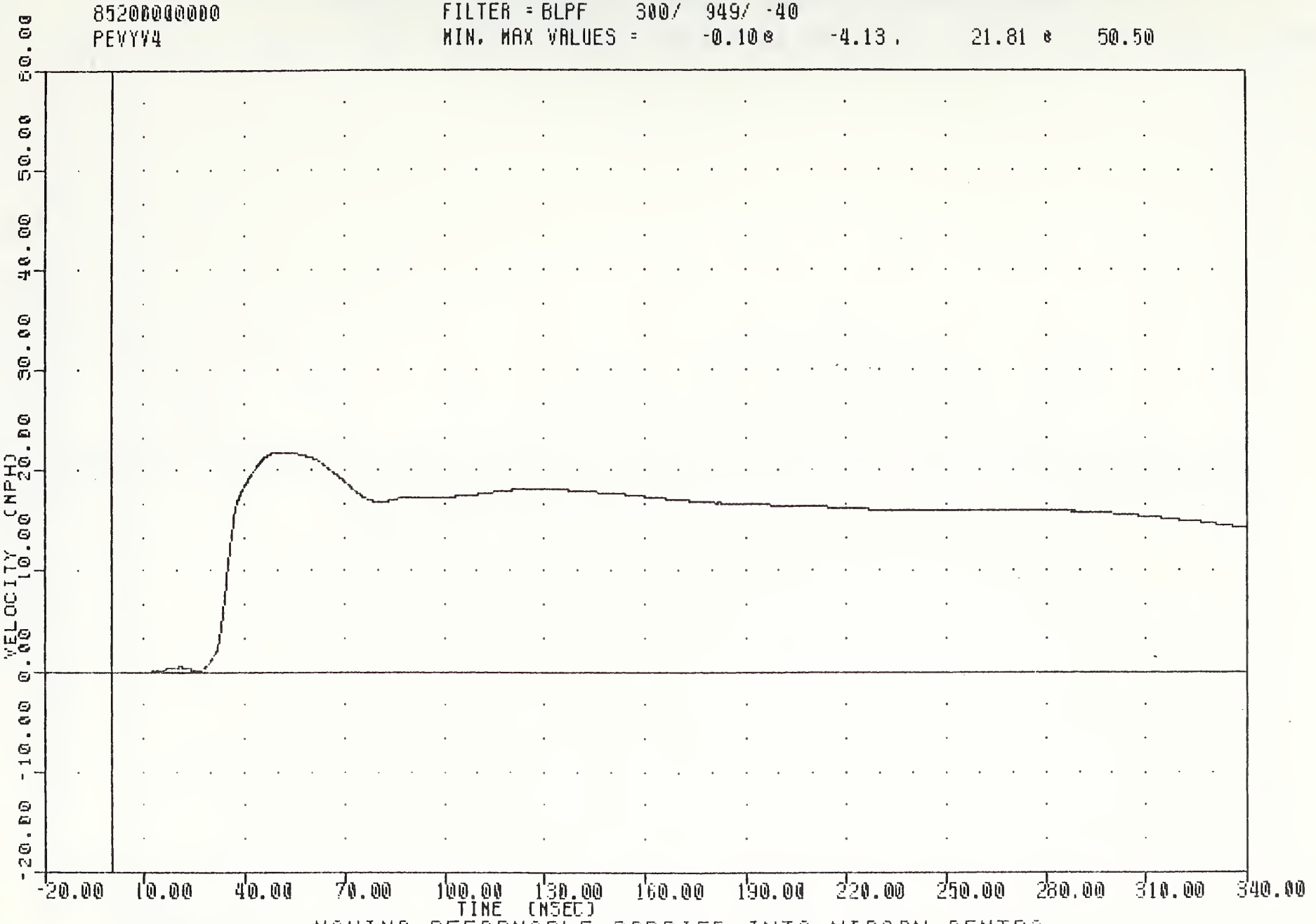
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER PELVIS ACCELERATION Z AXIS

VRT , 850719 PLOT DATE 26-JUL-85 07:49:33
SI PROTECTION PROD VEHICLE
8520000000D FILTER = BLPF 300/ 949/ -40
PEVRG4 MIN, MAX VALUES = 0.07@ -0.63 , 148.53 @ 35.25

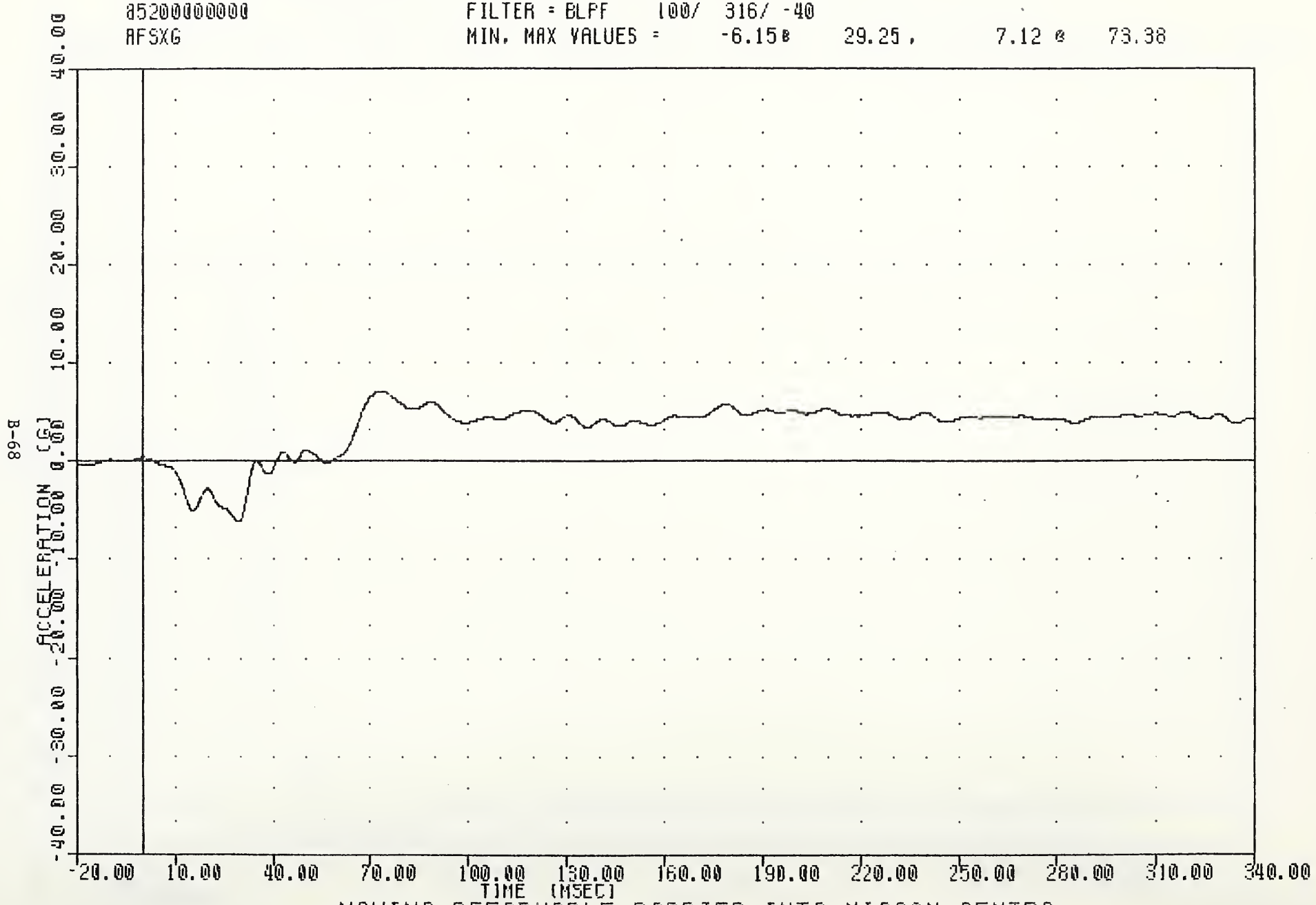


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
PASSENGER PELVIS RESULTANT

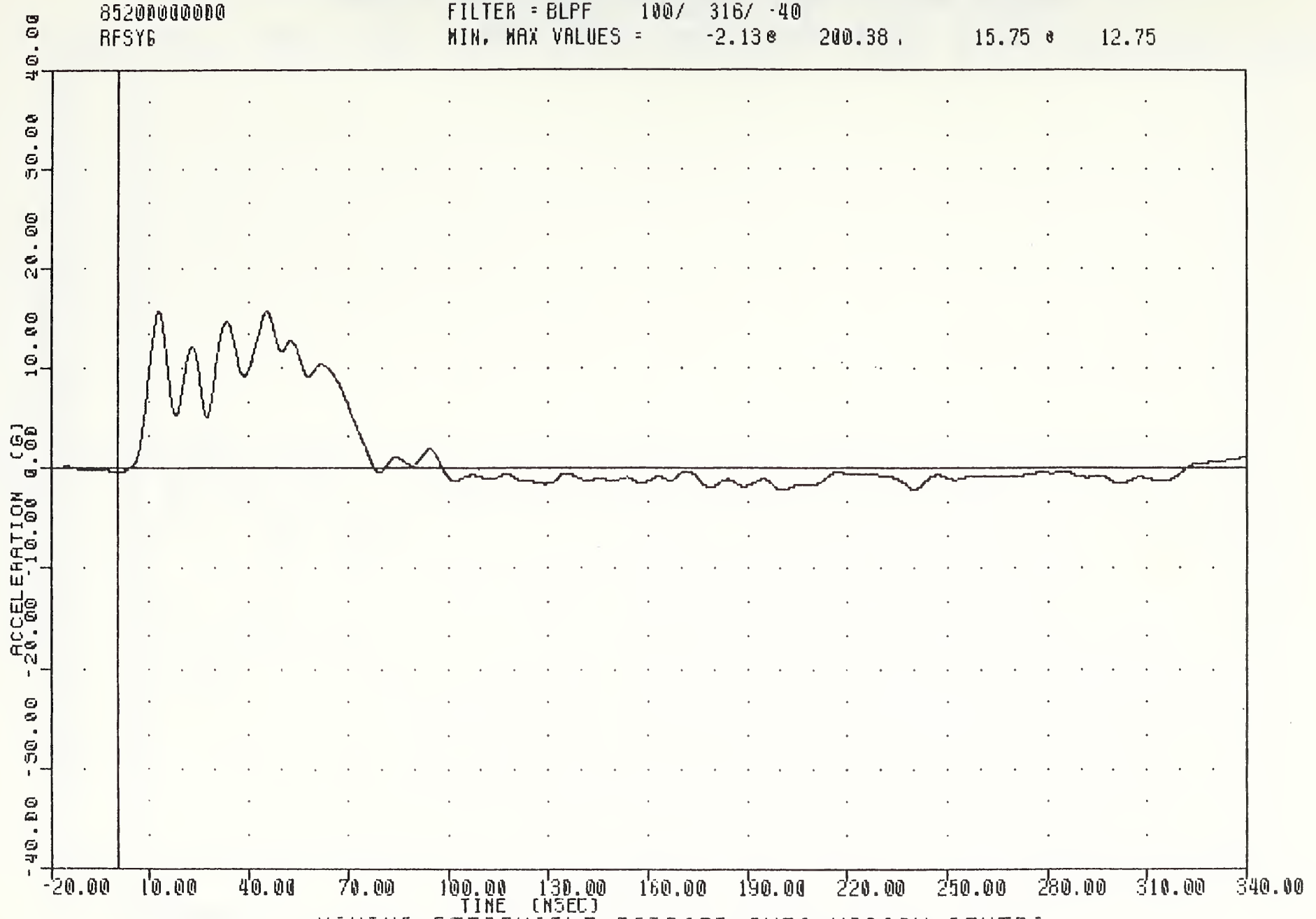
VAT , 850719 PLOT DATE 26-JUL-85 07:49:33
SI PROTECTION PROD VEHICLE
8520000000 FILTER = BLPF 300/ 949/ -40
PEVYY4 MIN, MAX VALUES = -0.10 @ -4.13 , 21.81 @ 50.50



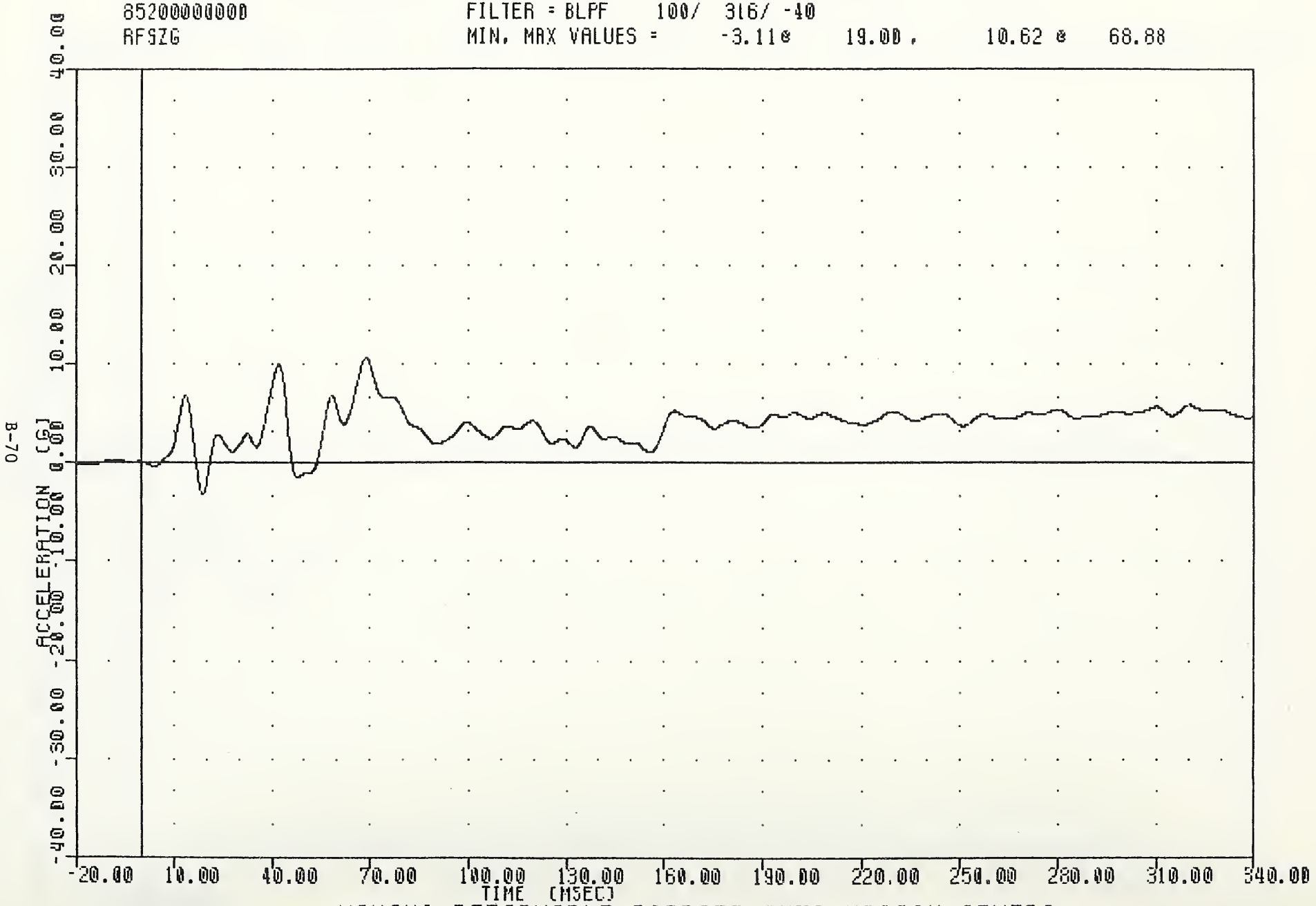
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING PEVYG4



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE RIGHT FRONT SILL ACCELERATION X AXIS

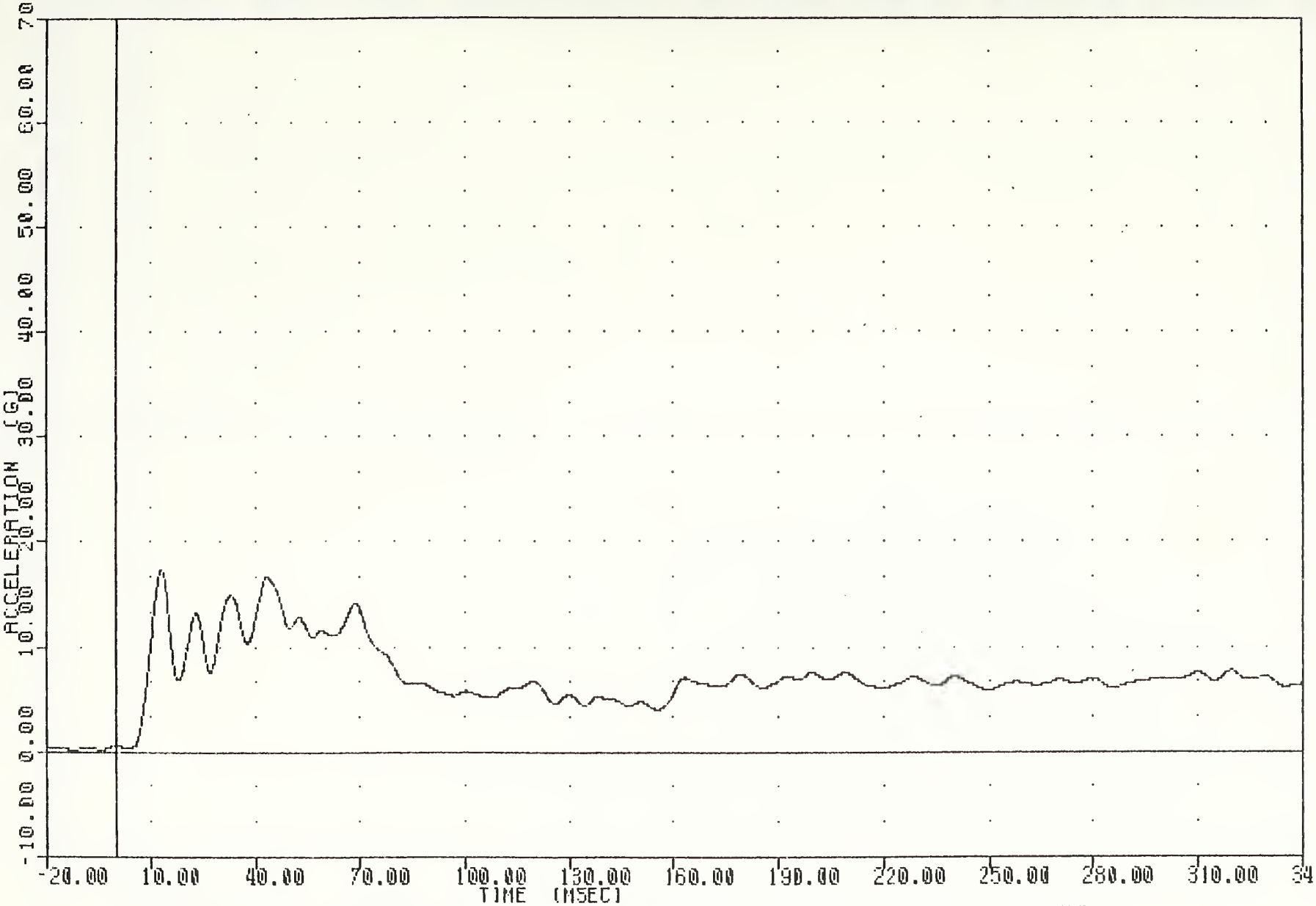


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE RIGHT FRONT SILL ACCELERATION Y AXIS

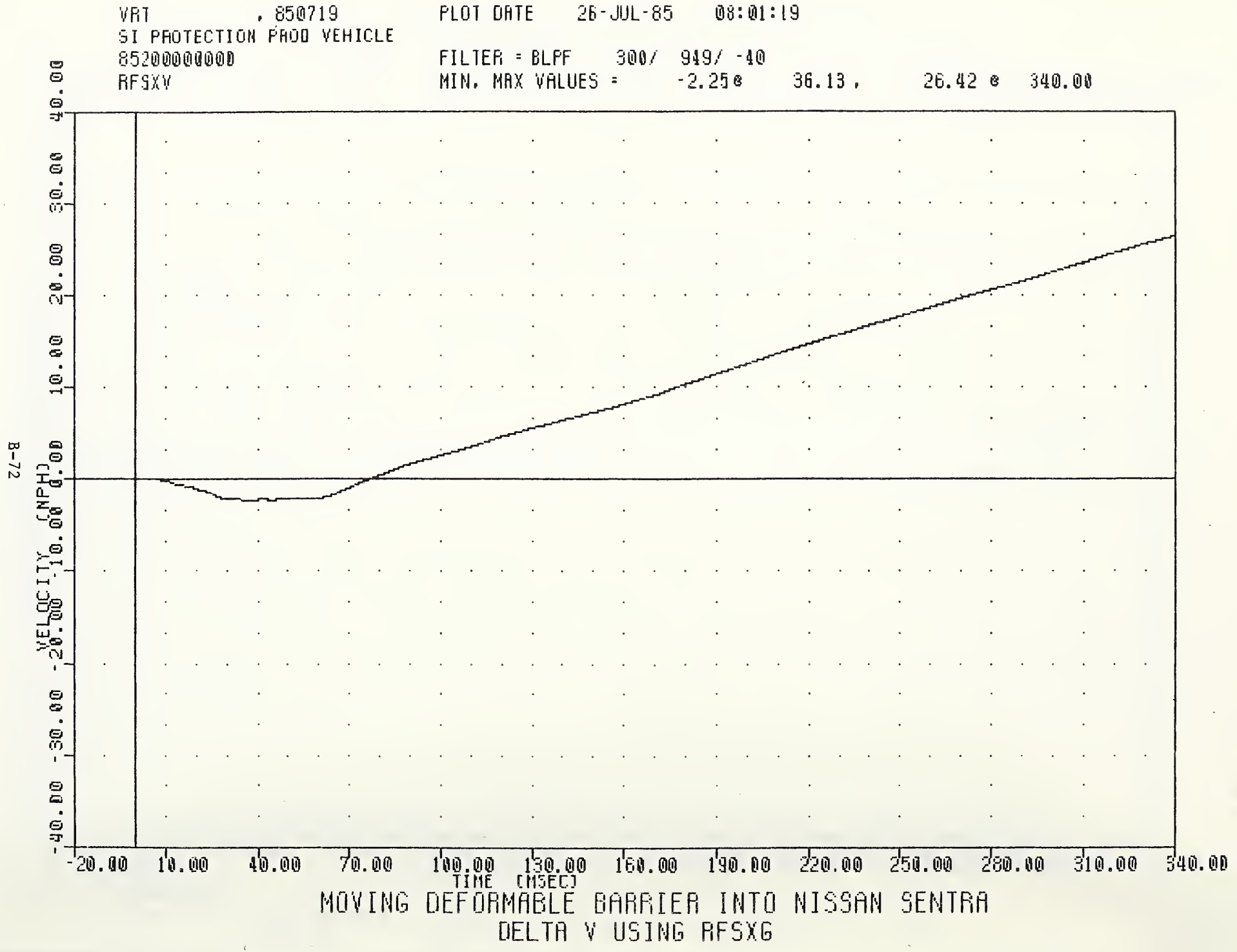


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE RIGHT FRONT SILL ACCELERATION Z AXIS

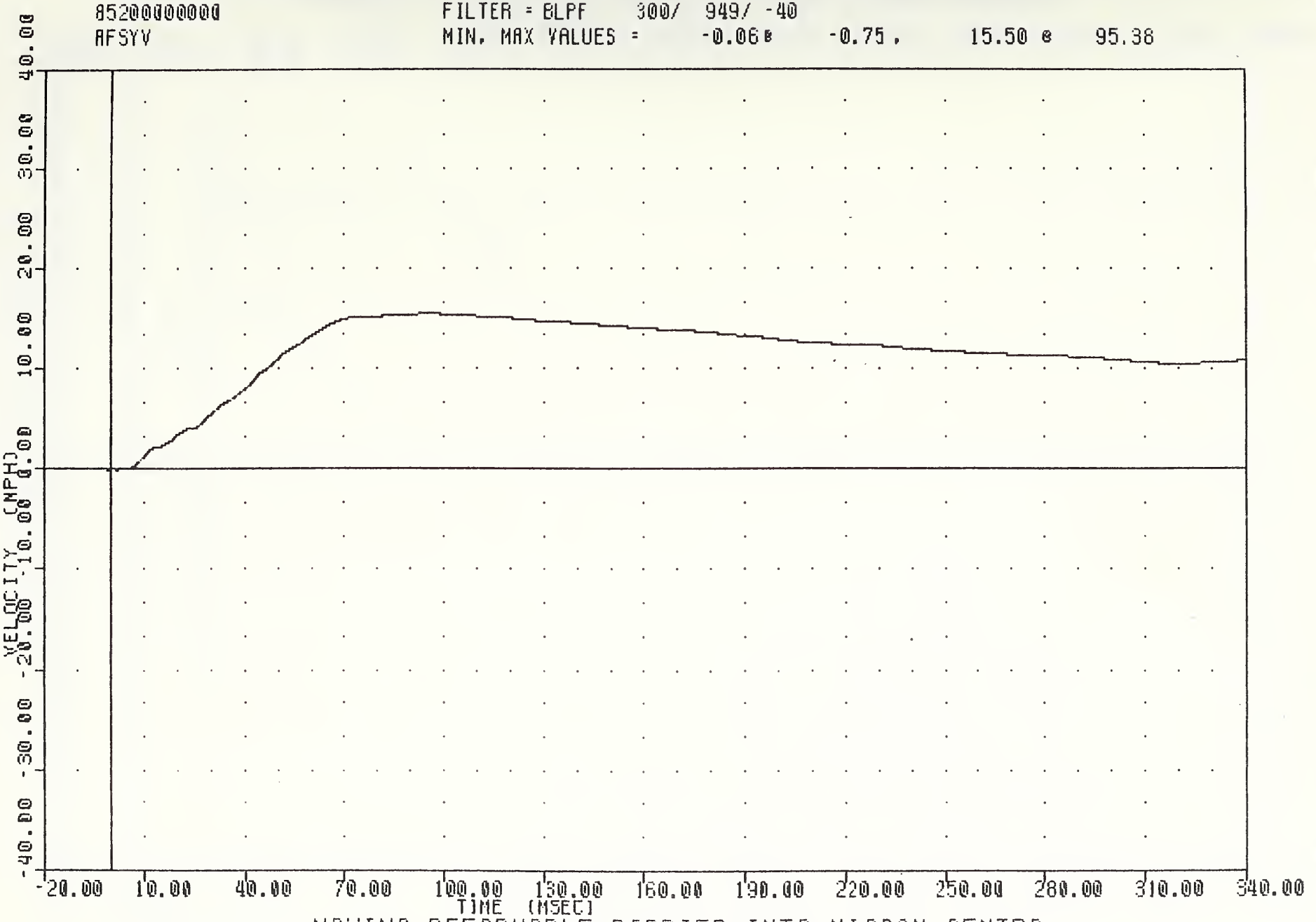
VRT , 850719 PLOT DATE 26-JUL-85 08:03:11
SI PROTECTION PROD VEHICLE
8520000000 FILTER = BLPF 100/ 316/ -40
RFSRG MIN, MAX VALUES = 0.03 @ -12.50 , 17.35 @ 13.13



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE RIGHT FRONT SILL RESULTANT

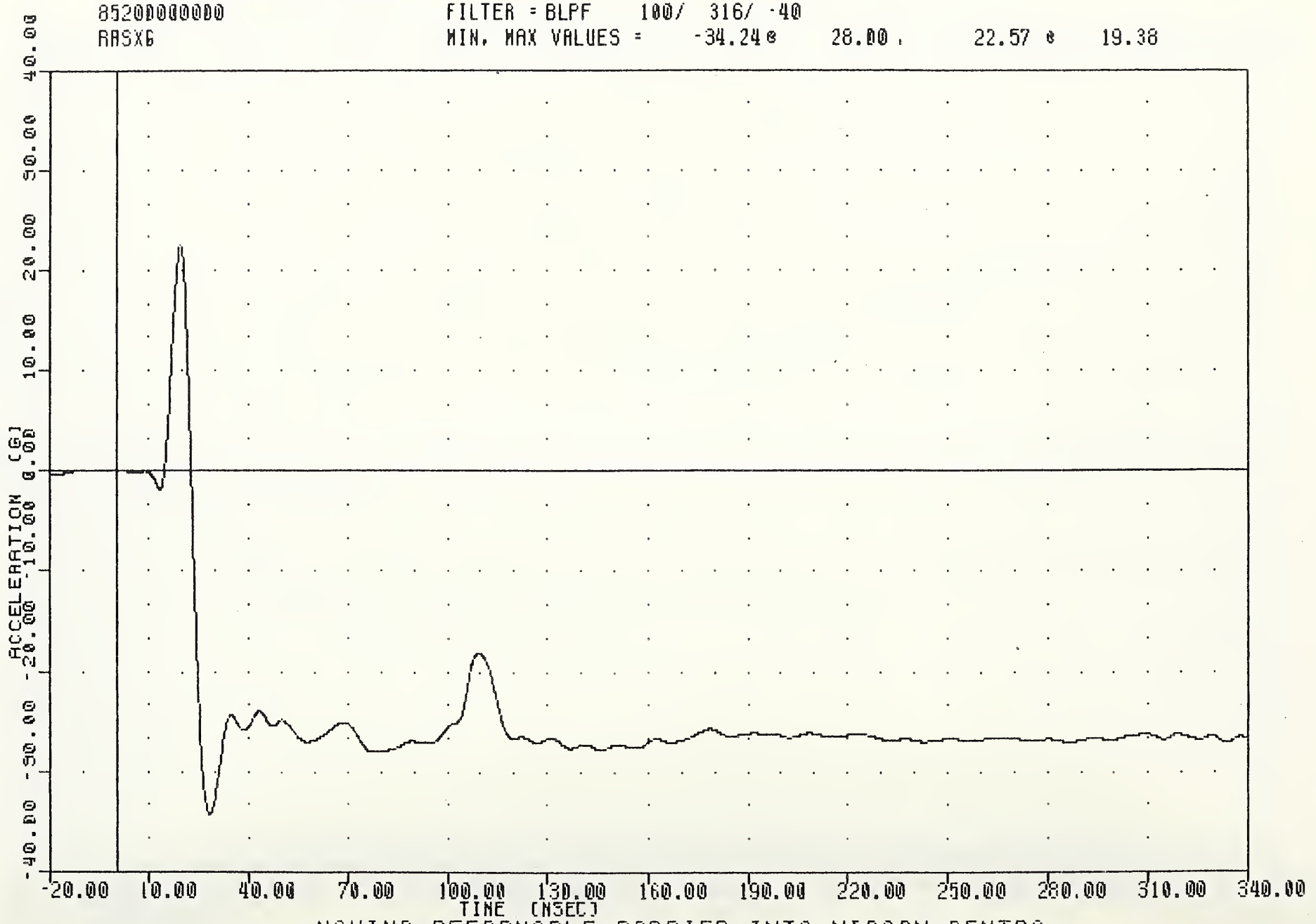


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING RFSXG



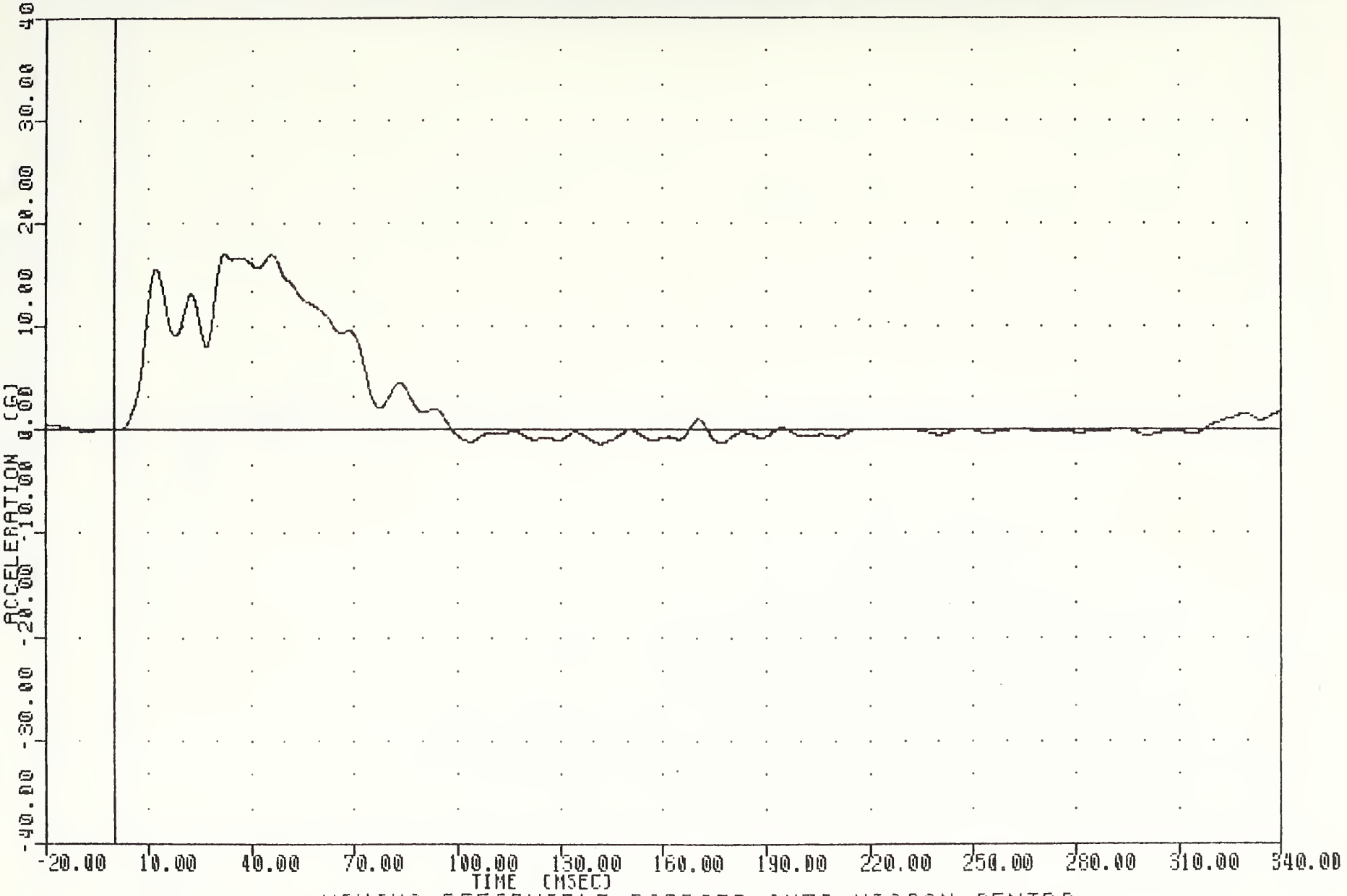
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING RFSYG

VAT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
852000000000 FILTER = BLPF 100/ 316/ -40
RRSXG MIN, MAX VALUES = -34.24 @ 28.00 , 22.57 @ 19.38

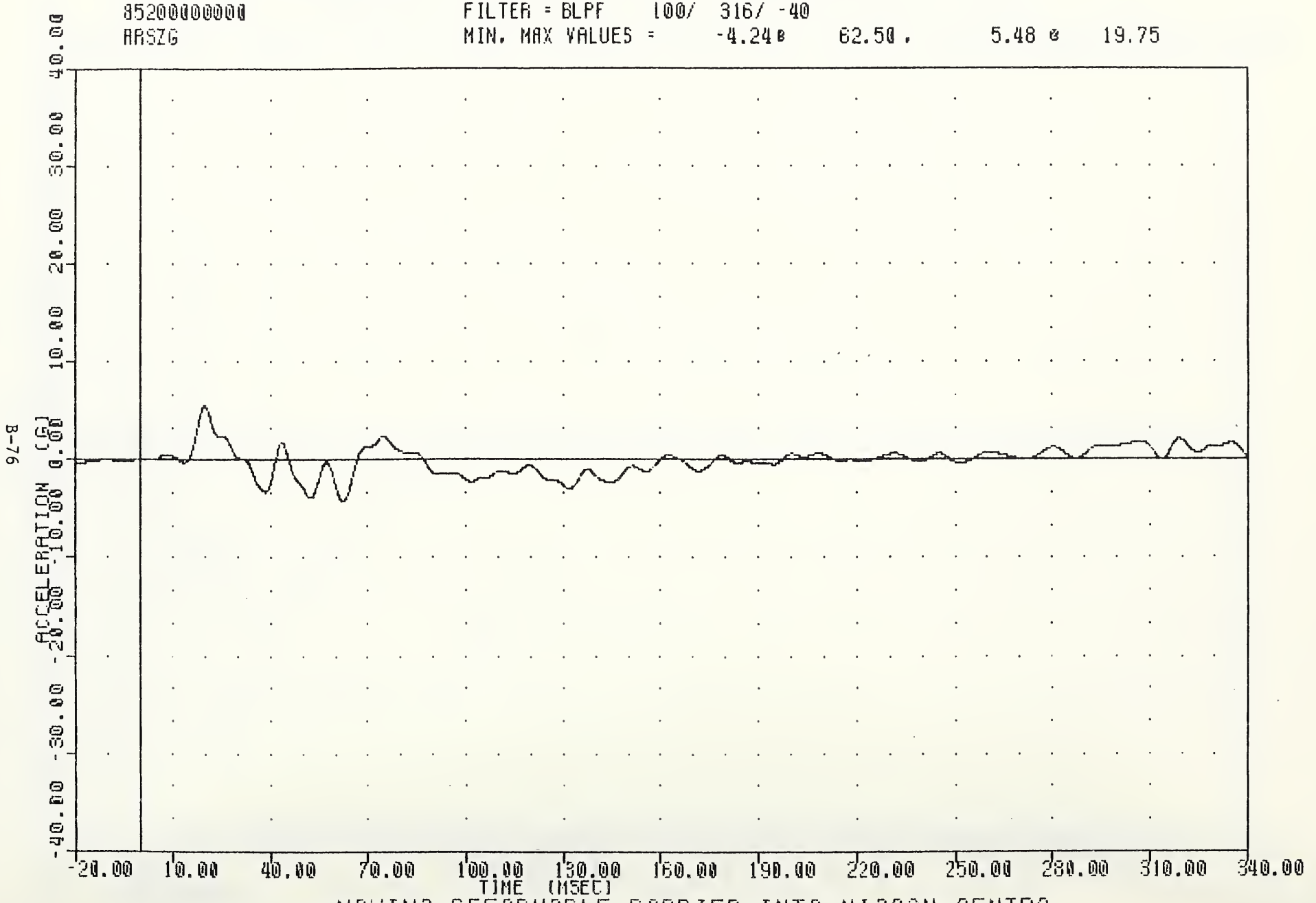


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE RIGHT REAR SILL ACCELERATION X AXIS

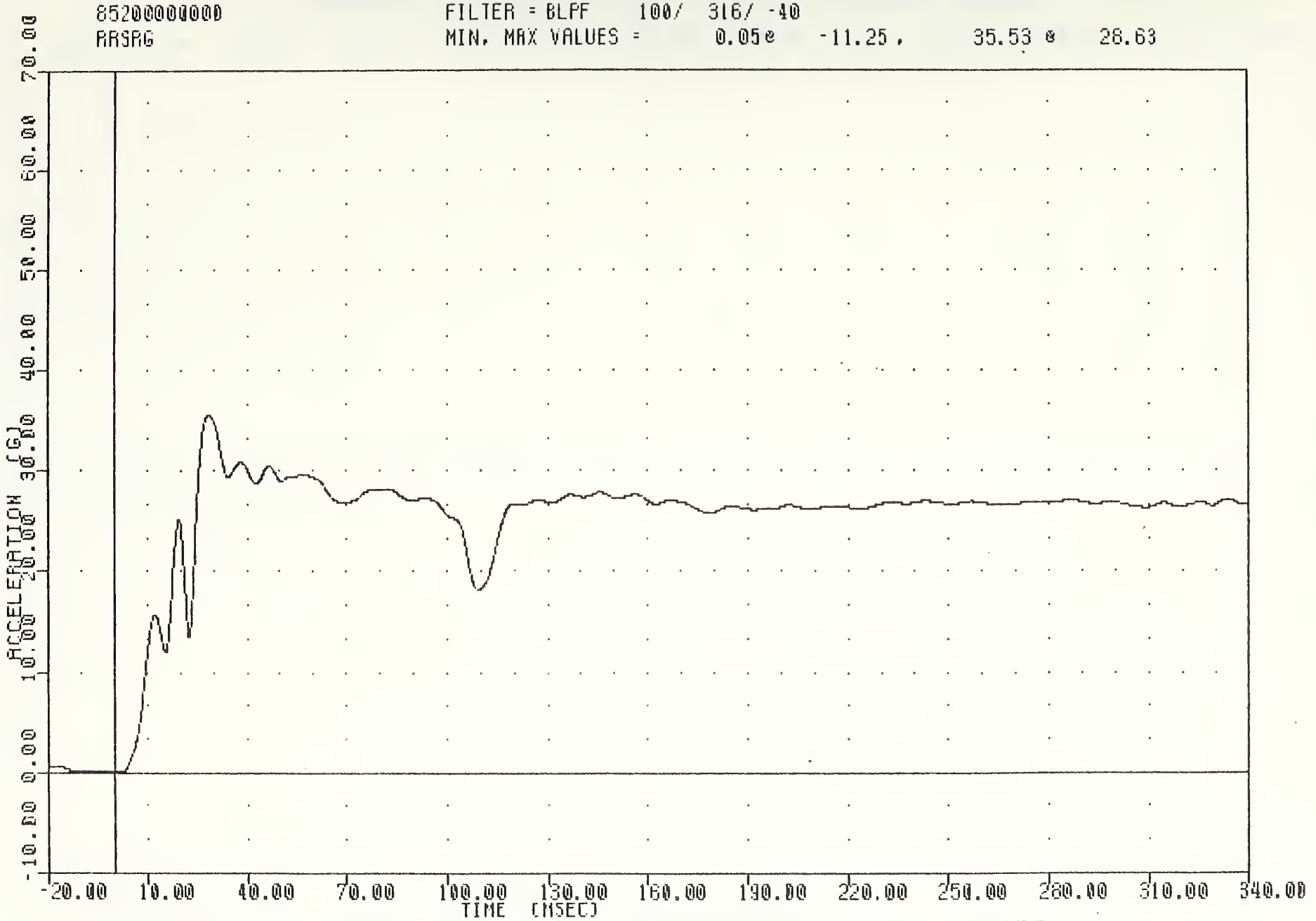
VRT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 100/ 316/ -40
RRSYG MIN, MAX VALUES = -1.35@ 141.75 , 17.02 @ 32.13



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE RIGHT REAR SILL ACCELERATION Y AXIS

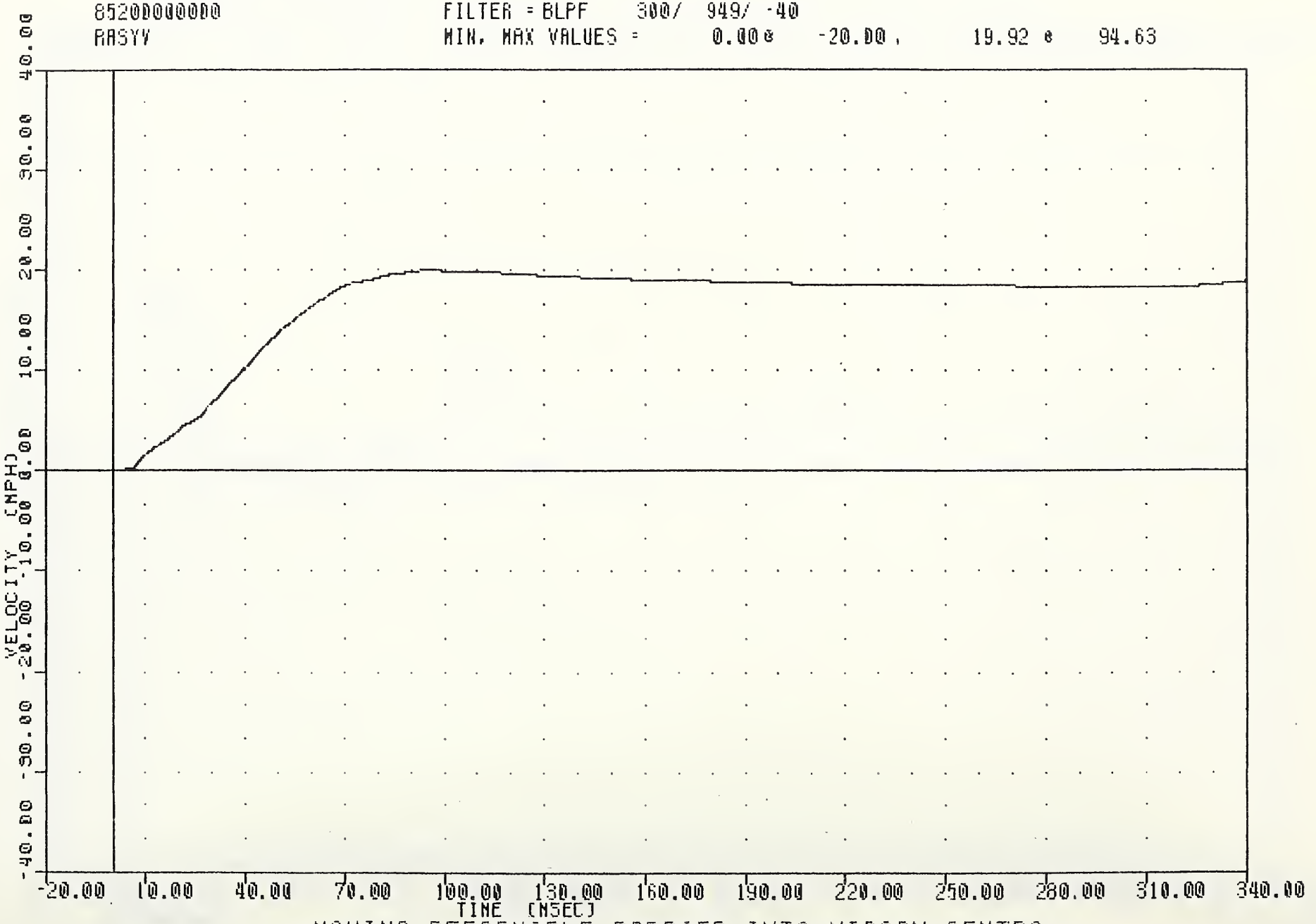


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE RIGHT REAR SILL ACCELERATION Z AXIS



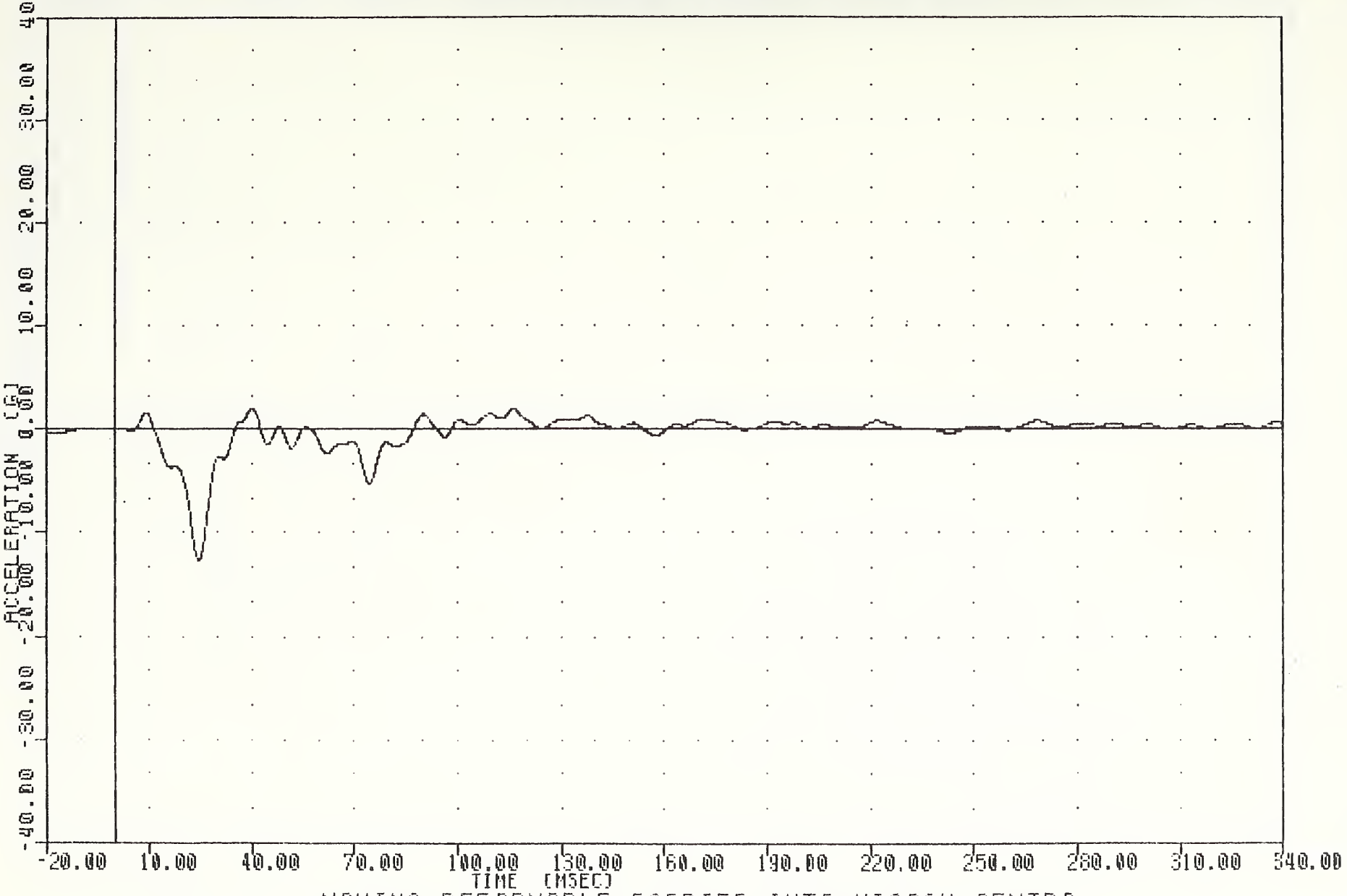
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE RIGHT REAR SILL RESULTANT

VAT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD·VEHICLE
8520D000000 FILTER = BLPF 300/ 949/ -40
RRSYY MIN, MAX VALUES = 0.00 @ -20.00 , 19.92 @ 94.63

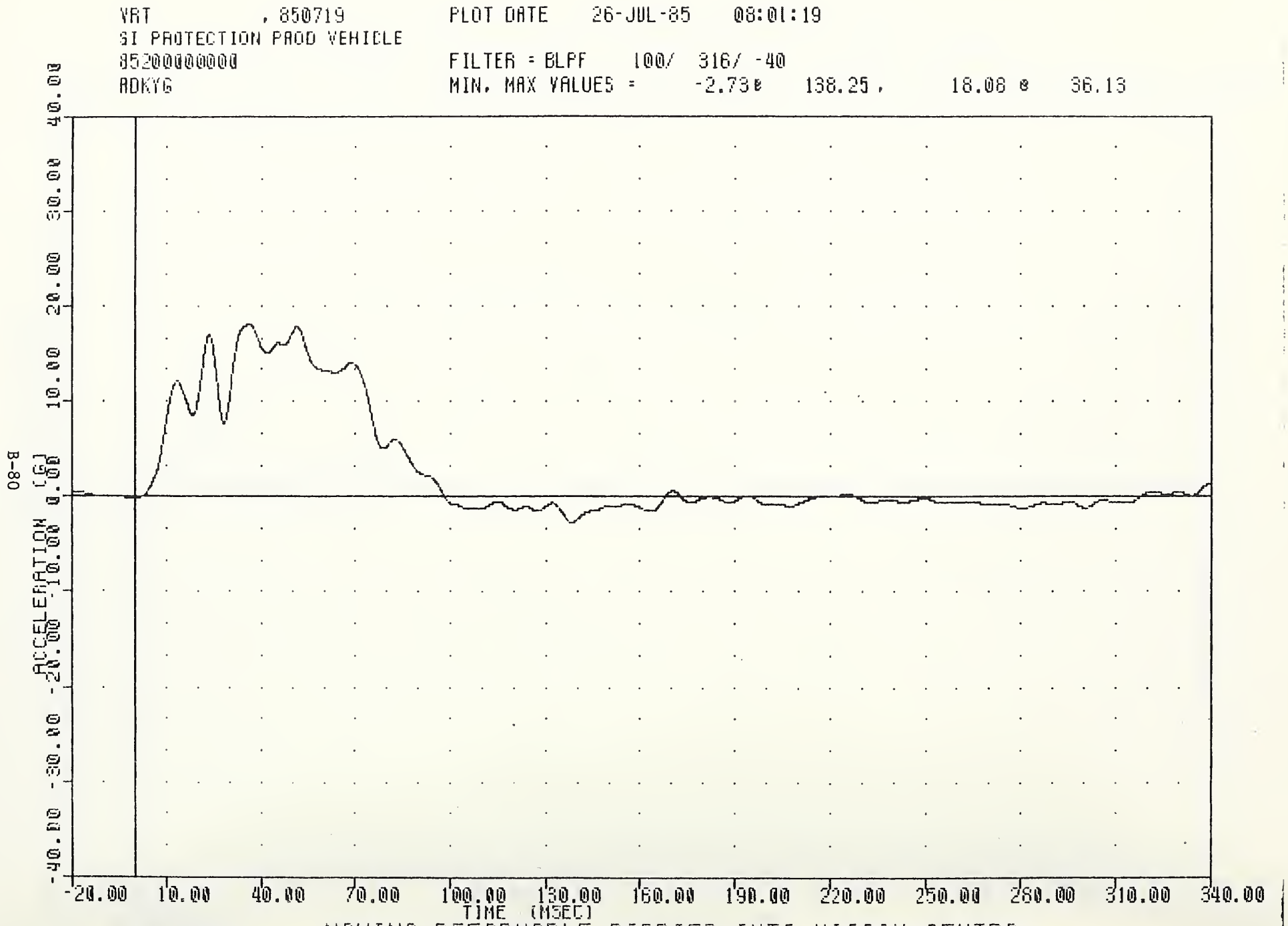


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING RRSYG

VRT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 100/ 316/ -40
RDKXG MIN, MAX VALUES = -12.69@ 24.63 , 1.94 @ 40.25

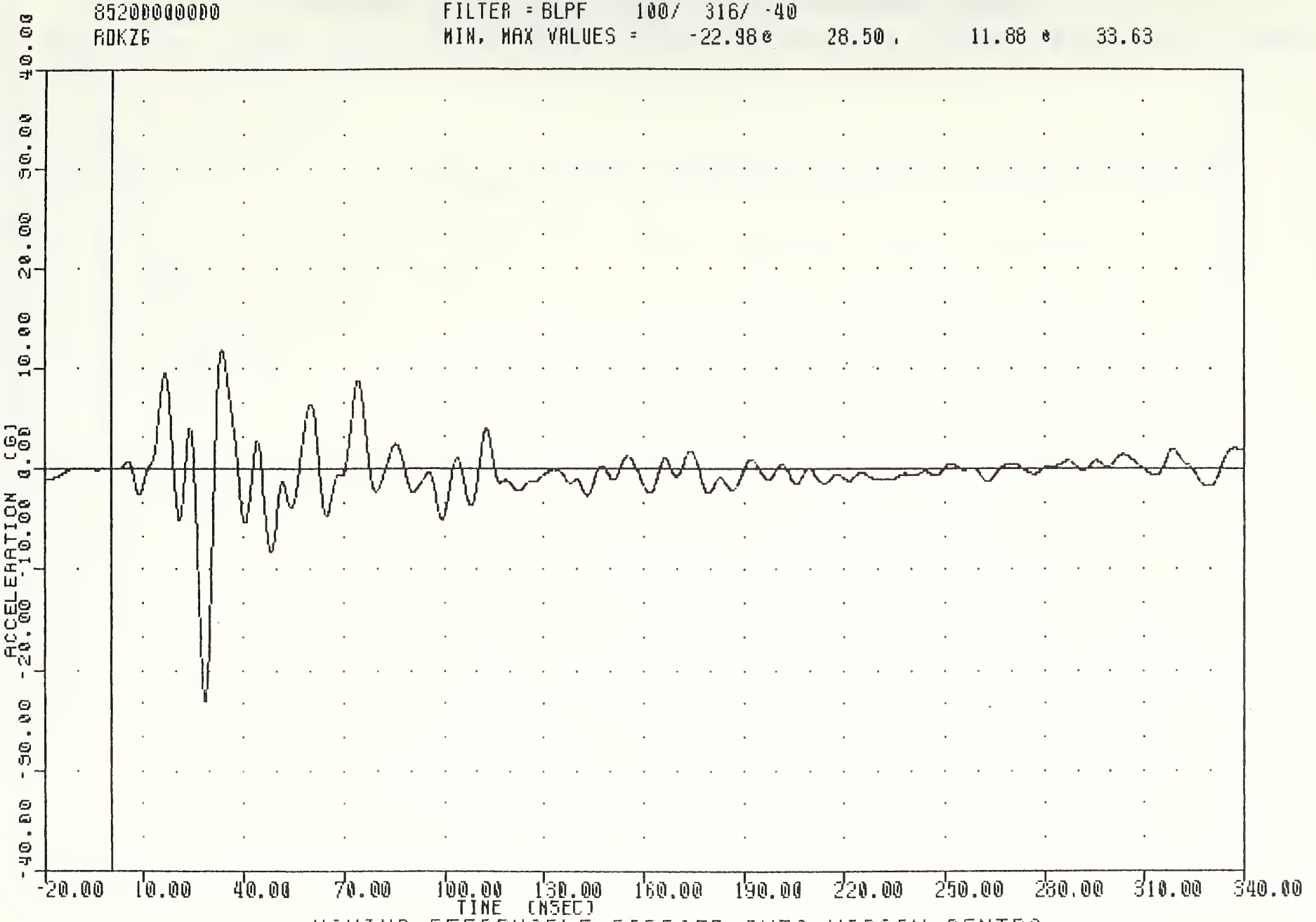


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE REAR DECK ACCELERATION X AXIS



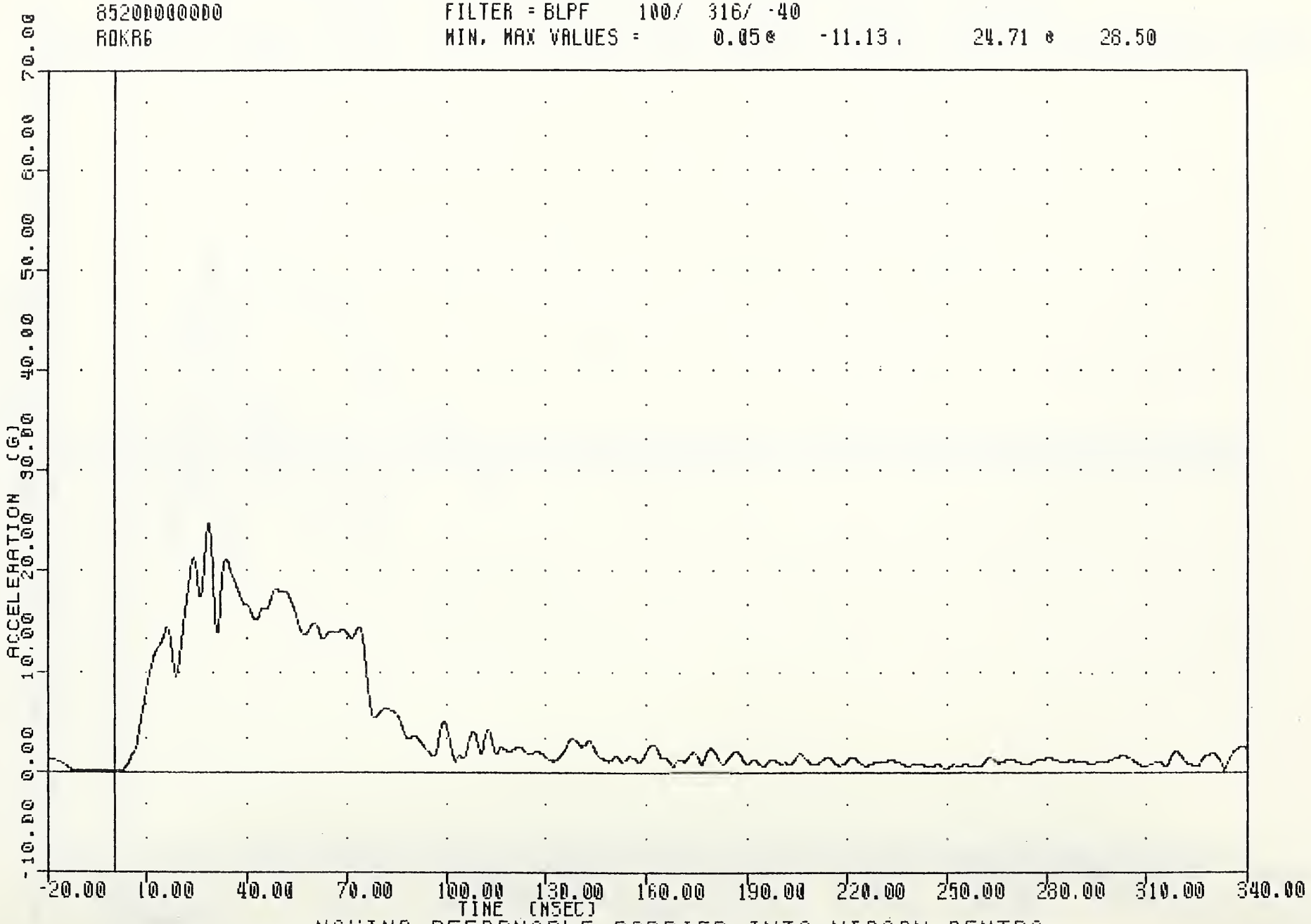
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE REAR DECK ACCELERATION Y AXIS

VAT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
852000000000 FILTER = BLPF 100/ 316/ -40
RDKZ6 MIN, MAX VALUES = -22.98 @ 28.50 , 11.88 @ 33.63



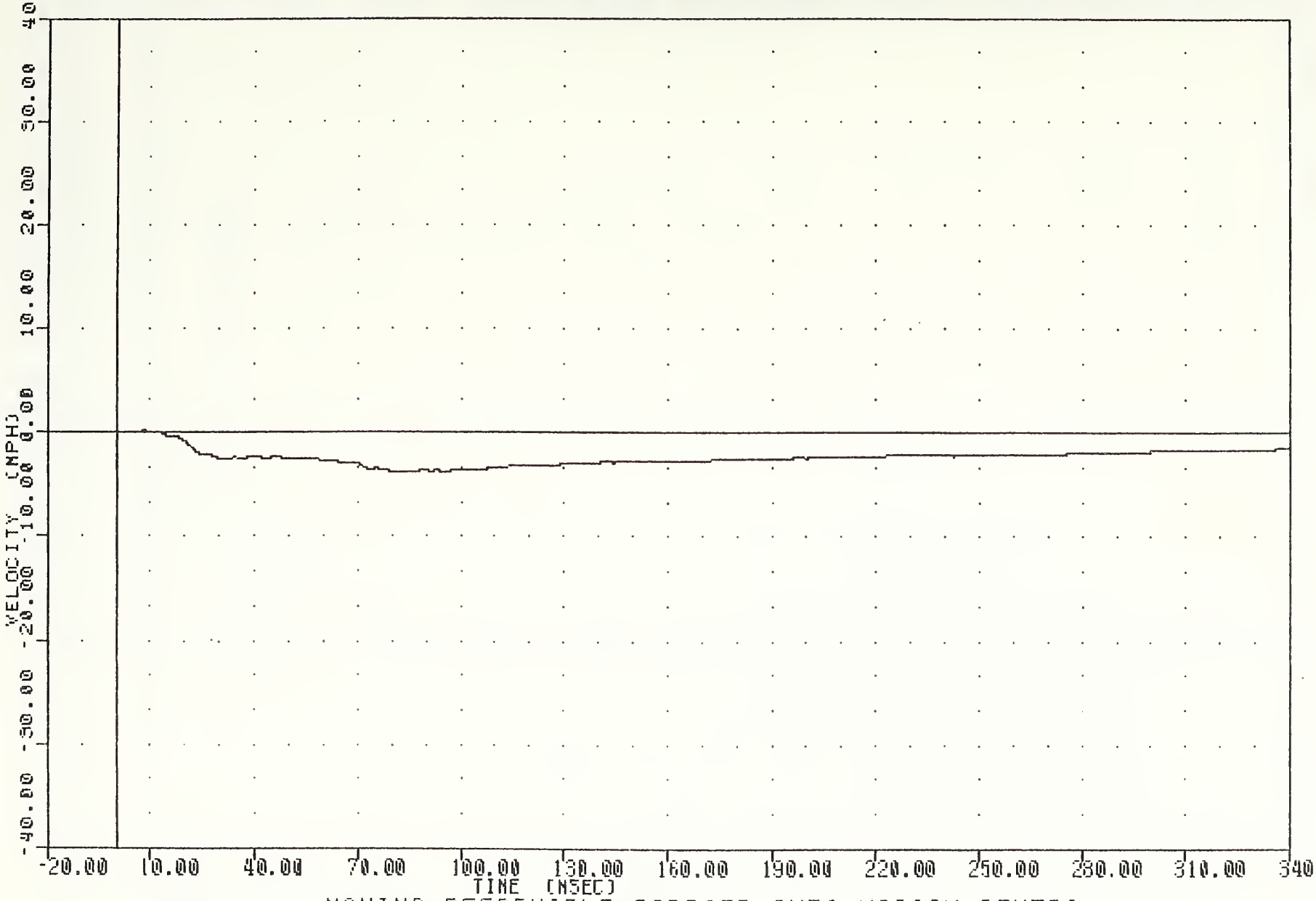
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE REAR DECK ACCELERATION Z AXIS

VAT , 850719 PLOT DATE 26-JUL-85 08:03:11
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 100/ 316/ -40
ROKR6 MIN, MAX VALUES = 0.05@ -11.13, 24.71 @ 28.50



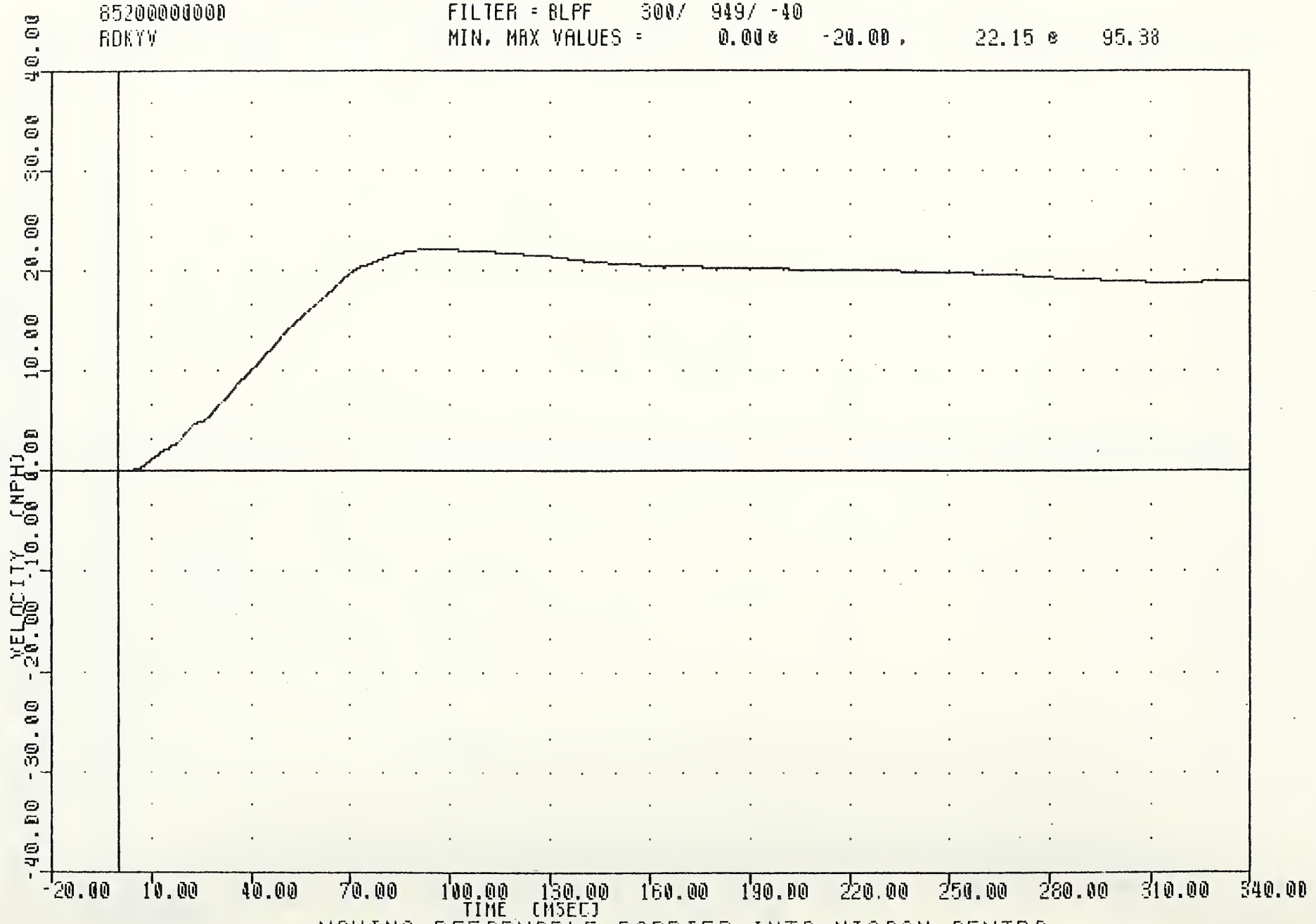
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE REAR DECK RESULTANT

VAT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
8520000000 FILTER = BLPF 300/ 949/ -40
RDKXV MIN, MAX VALUES = -3.79 @ 84.75 , 0.17 @ 8.00

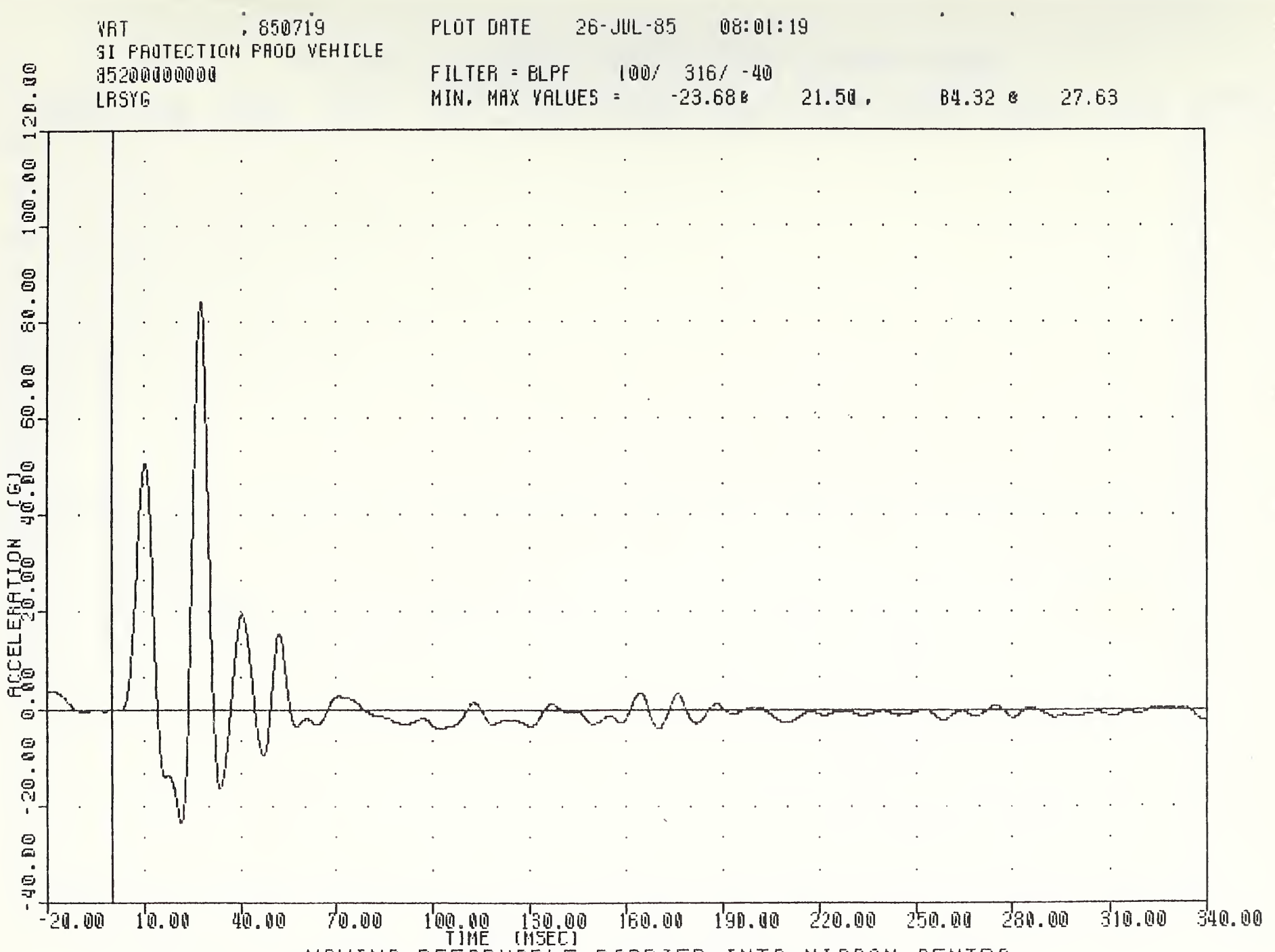


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING RDKXG

VRT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
8520000000D FILTER = BLPF 300/ 949/ -40
RDKYV MIN, MAX VALUES = 0.00 @ -20.00 , 22.15 @ 95.38

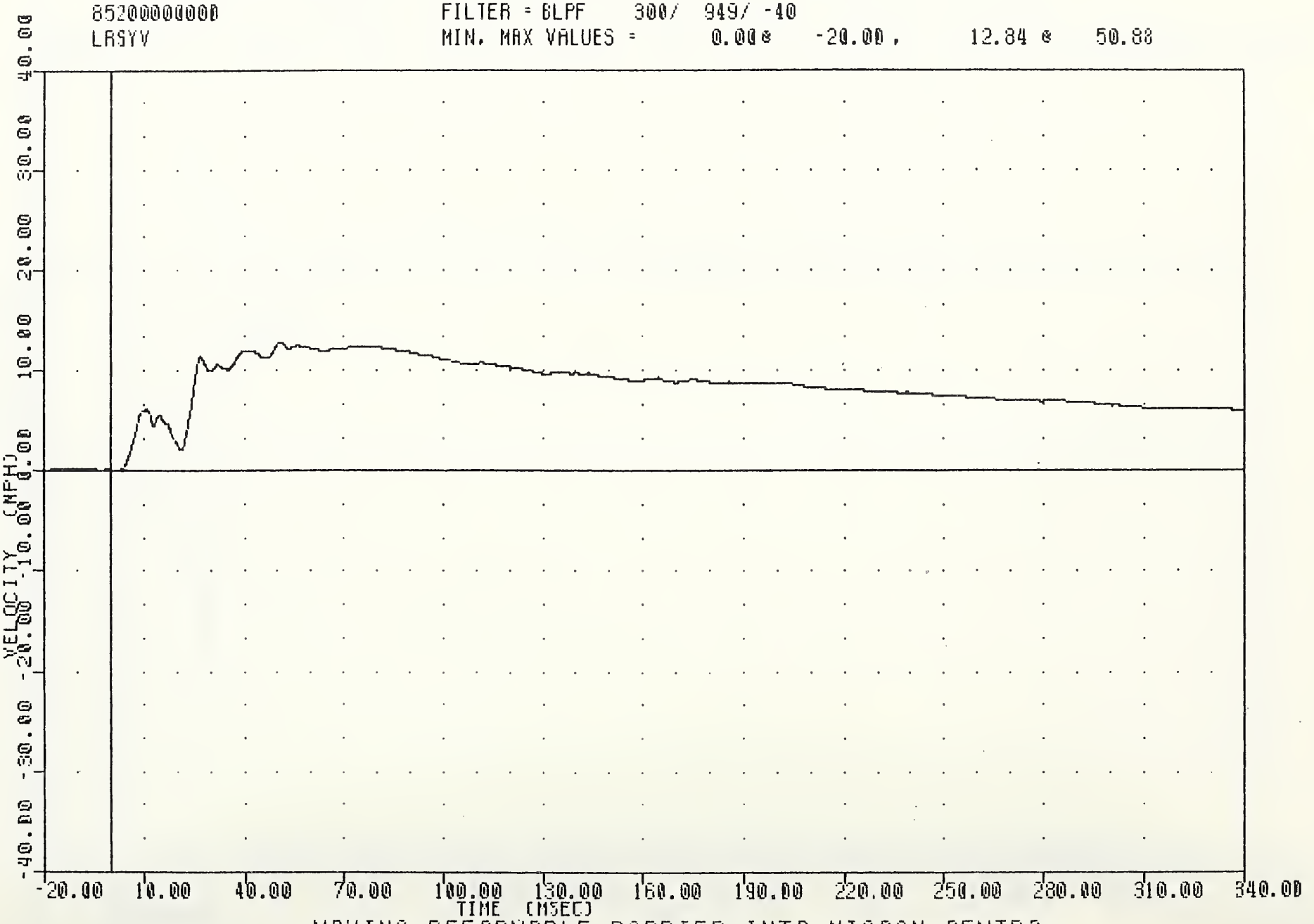


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING RDKYG

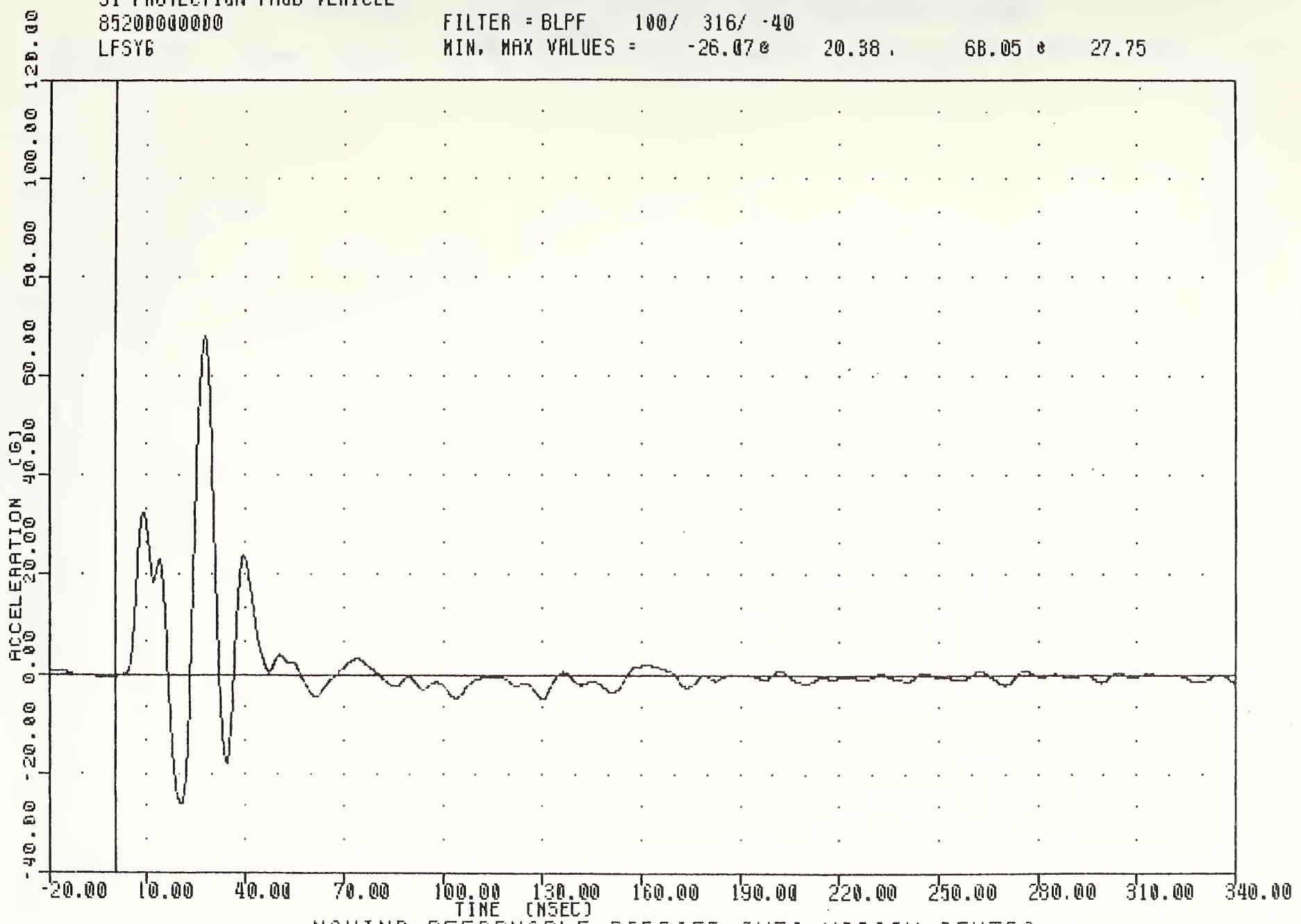


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE LEFT REAR SILL ACCELERATION Y AXIS

VRT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 300/ 949/ -40
LRSYV MIN, MAX VALUES = 0.00 @ -20.00 , 12.84 @ 50.88

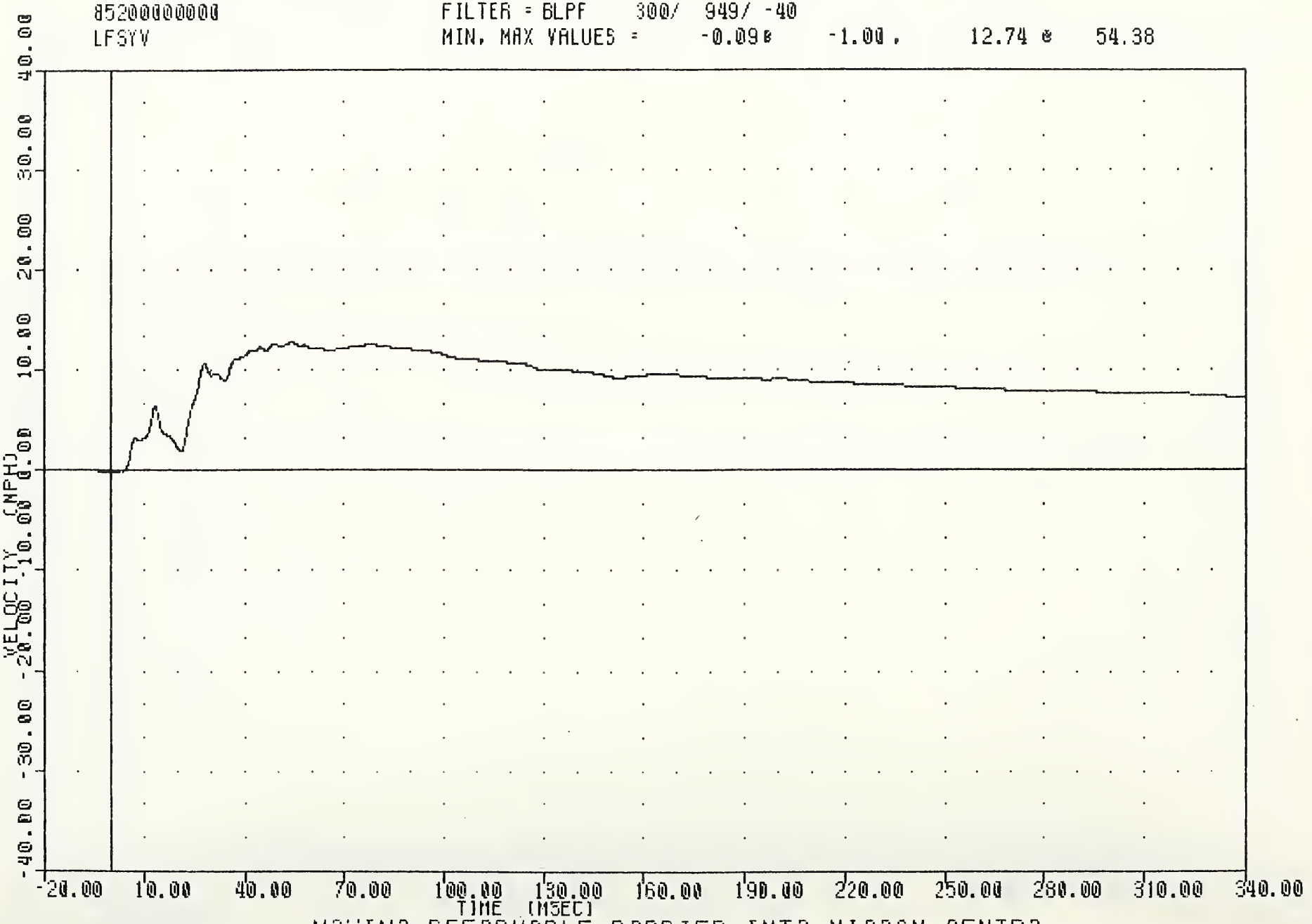


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LRSYG

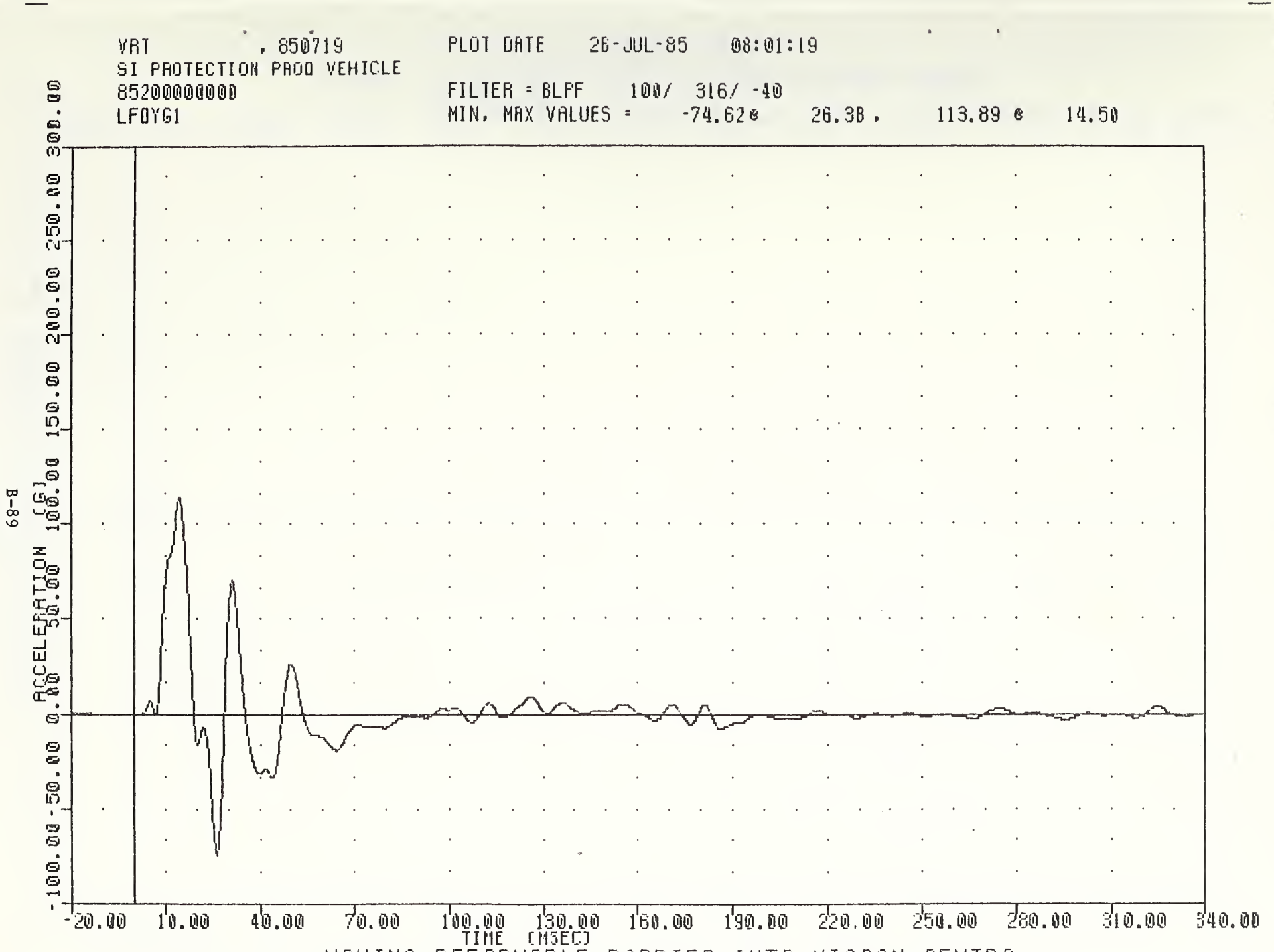


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE LEFT FRONT SILL ACCELERATION Y AXIS

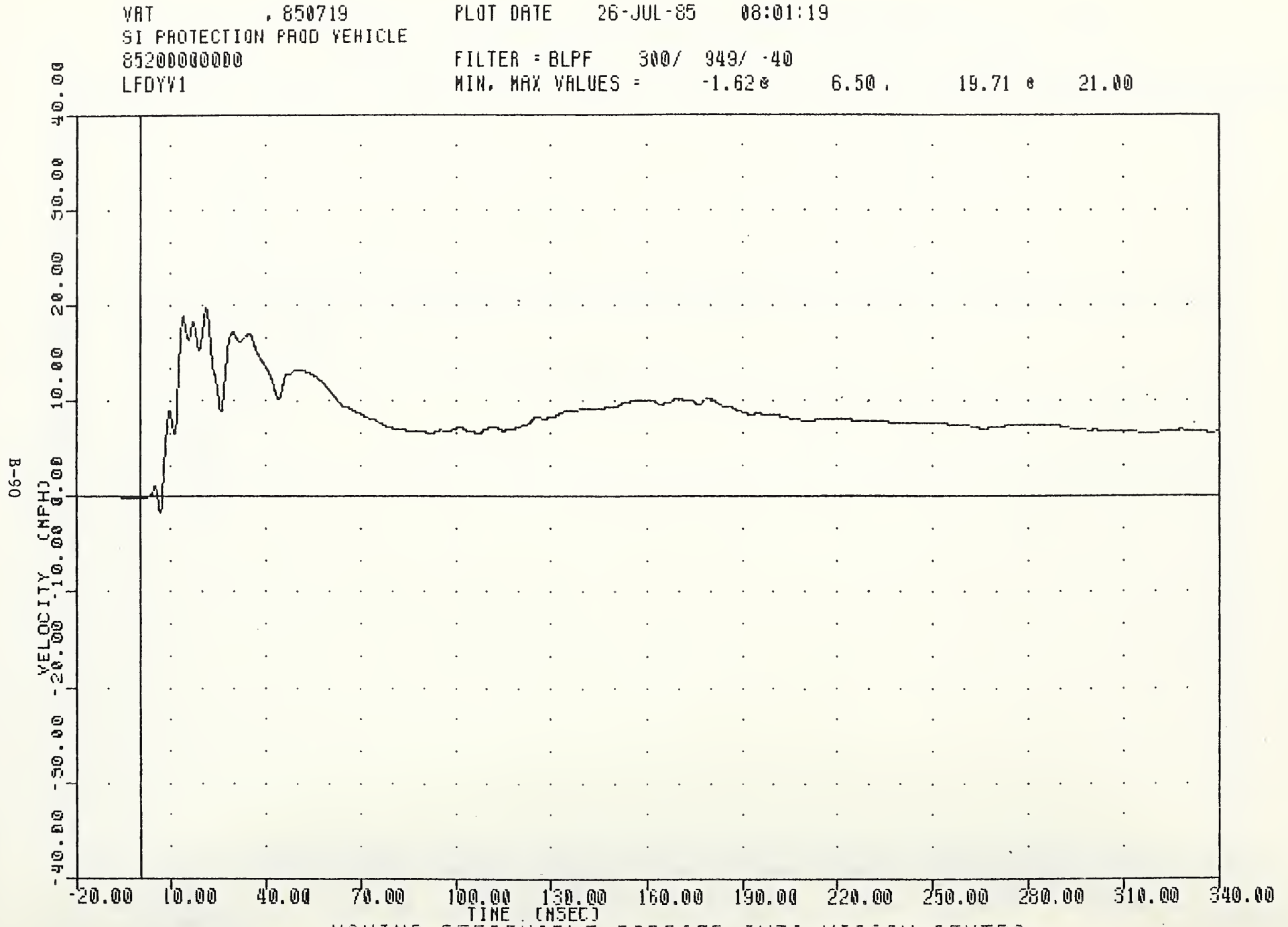
VRT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 300/ 949/ -40
LFSYV MIN, MAX VALUES = -0.09 @ -1.00 , 12.74 @ 54.38



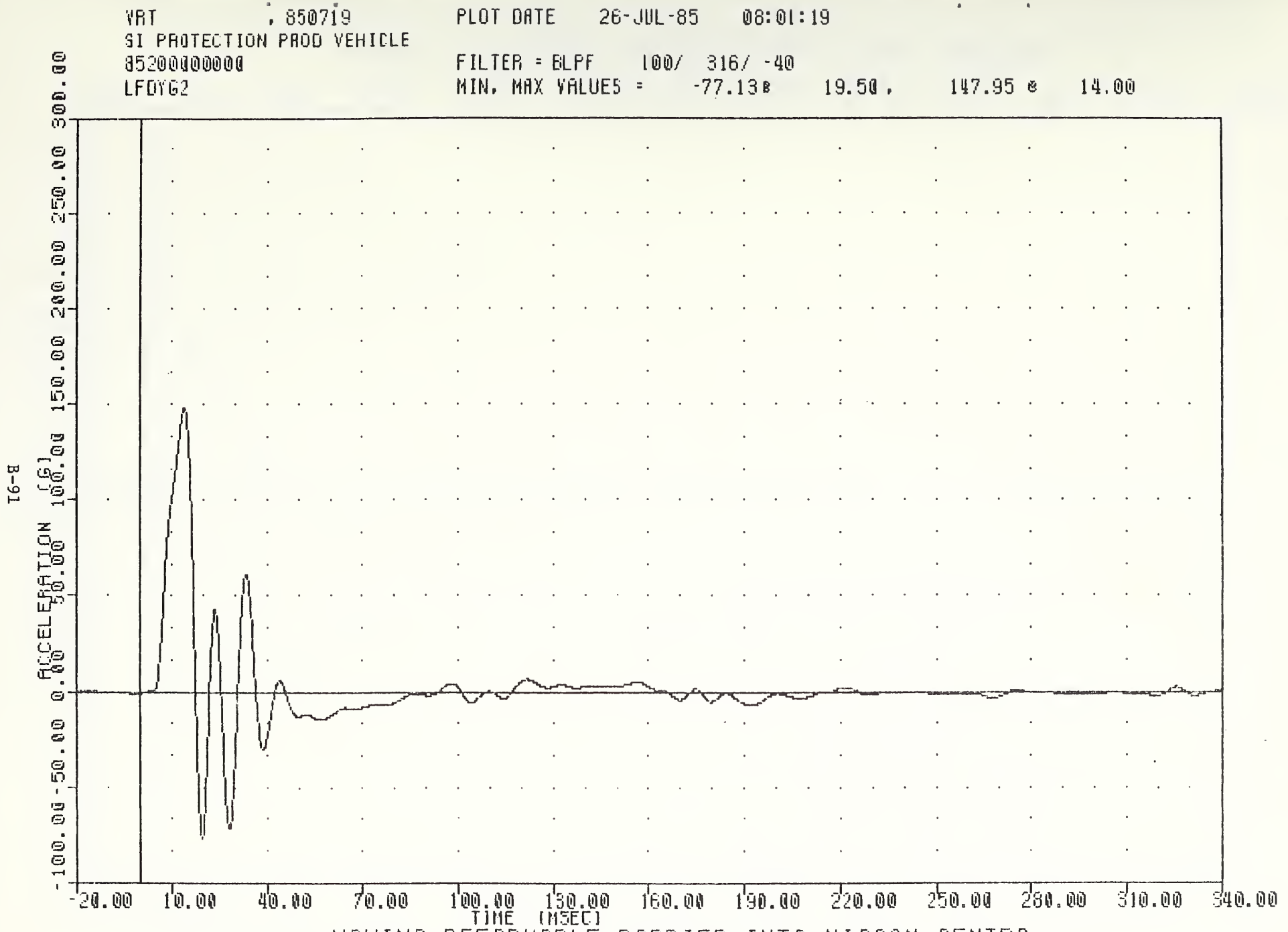
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LFSYG



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE LEFT FRONT DOOR (POSITION 6) ACCELERATION Y AXIS

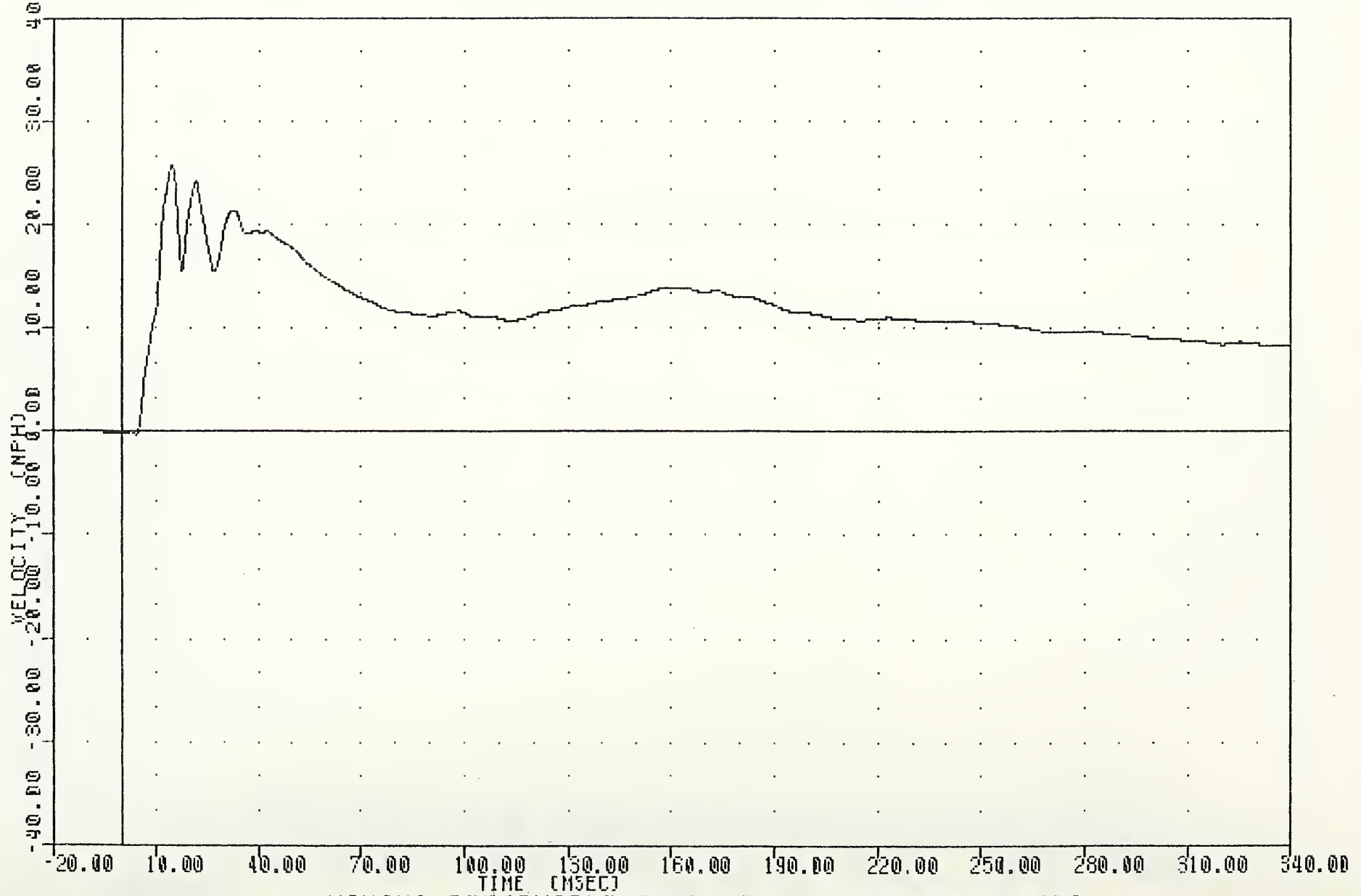


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LFDYG1

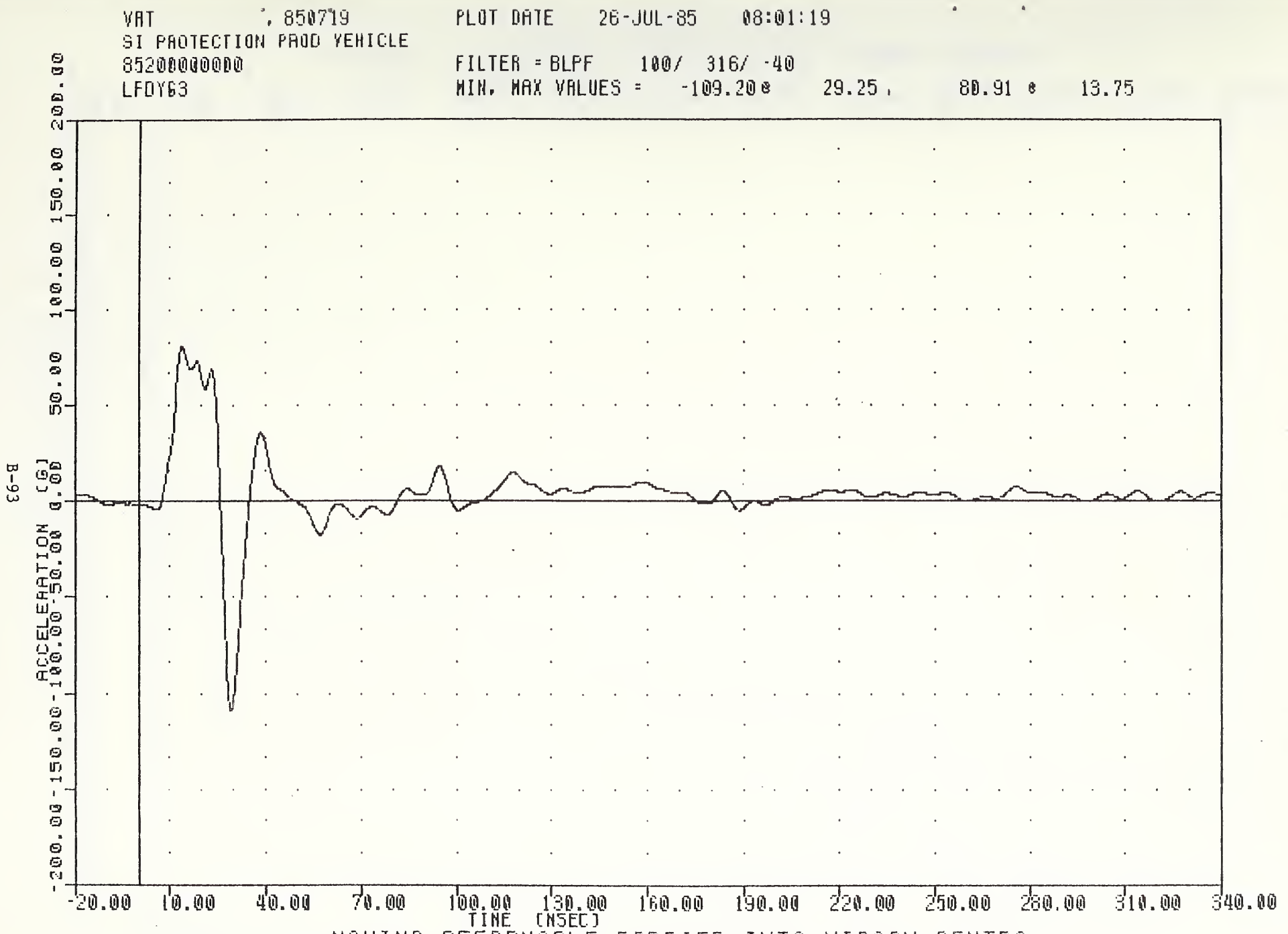


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE LEFT FRONT DOOR (POSITION 8) ACCELERATION Y AXIS

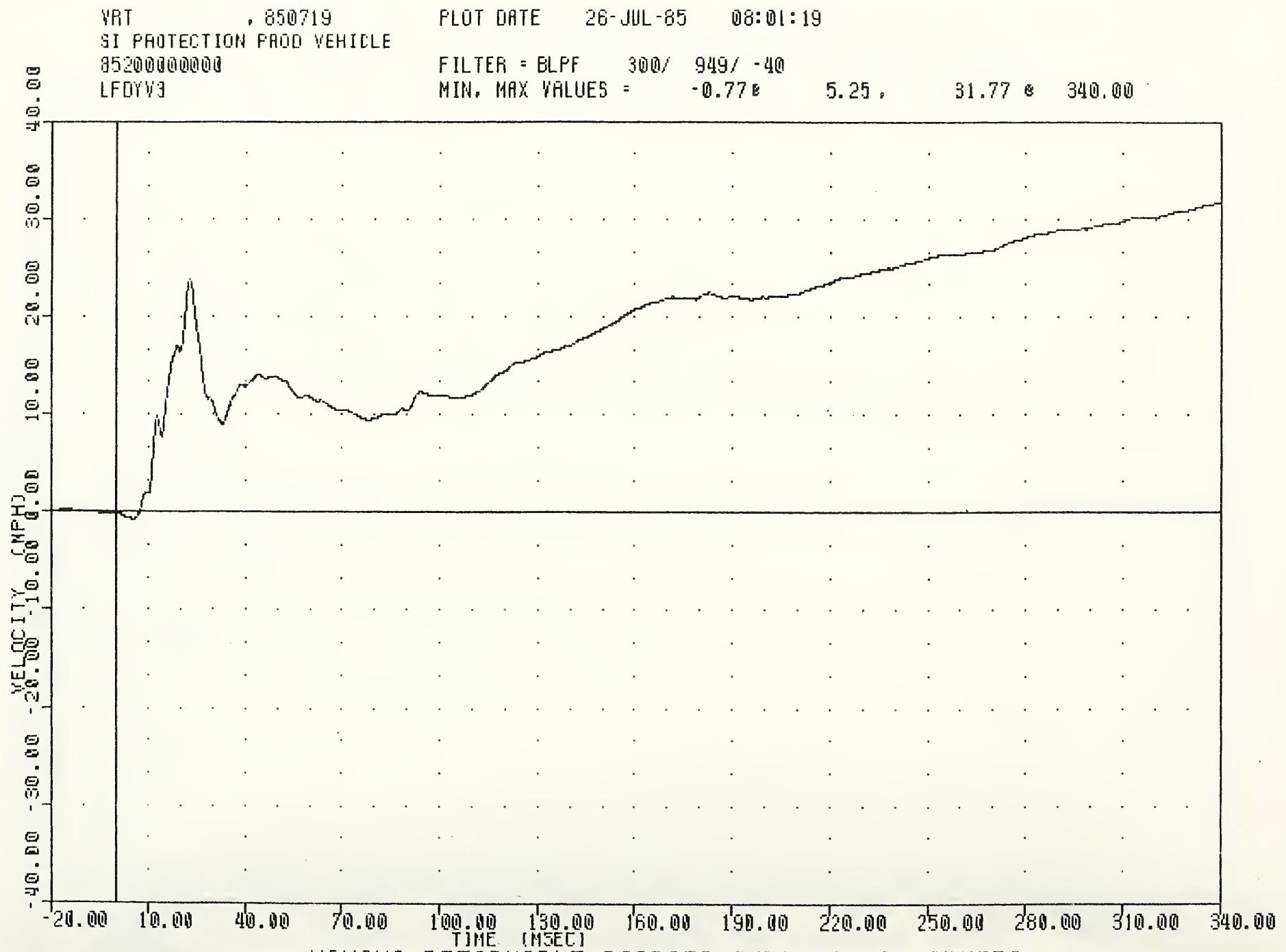
VRT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
8520000000 FILTER = BLPF 300/ 949/ -40
LFDYV2 MIN, MAX VALUES = -0.32@ 4.38 , 25.76 @ 14.63



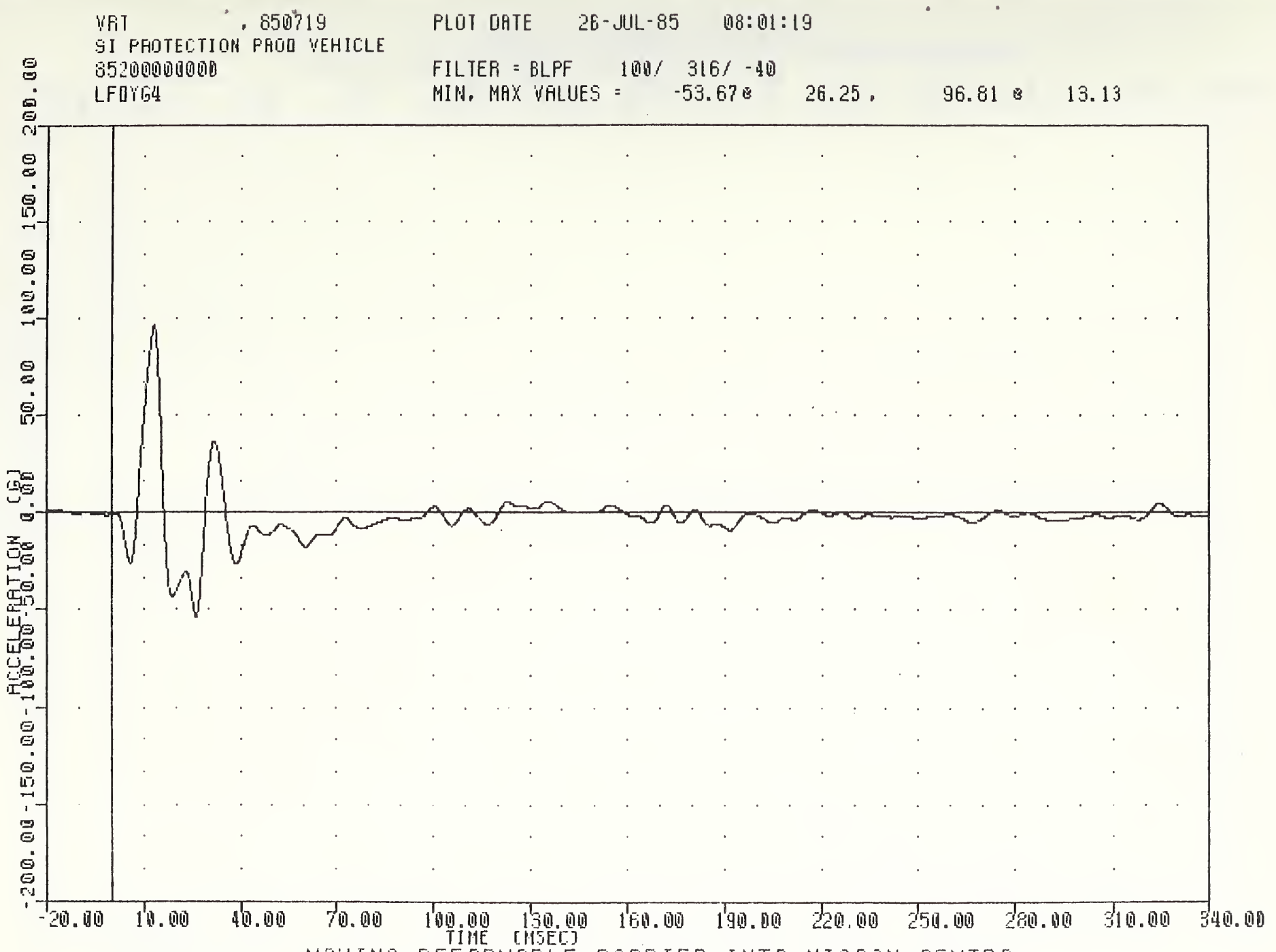
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LFDYG2



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE LEFT FRONT DOOR (POSITION 9) ACCELERATION Y AXIS

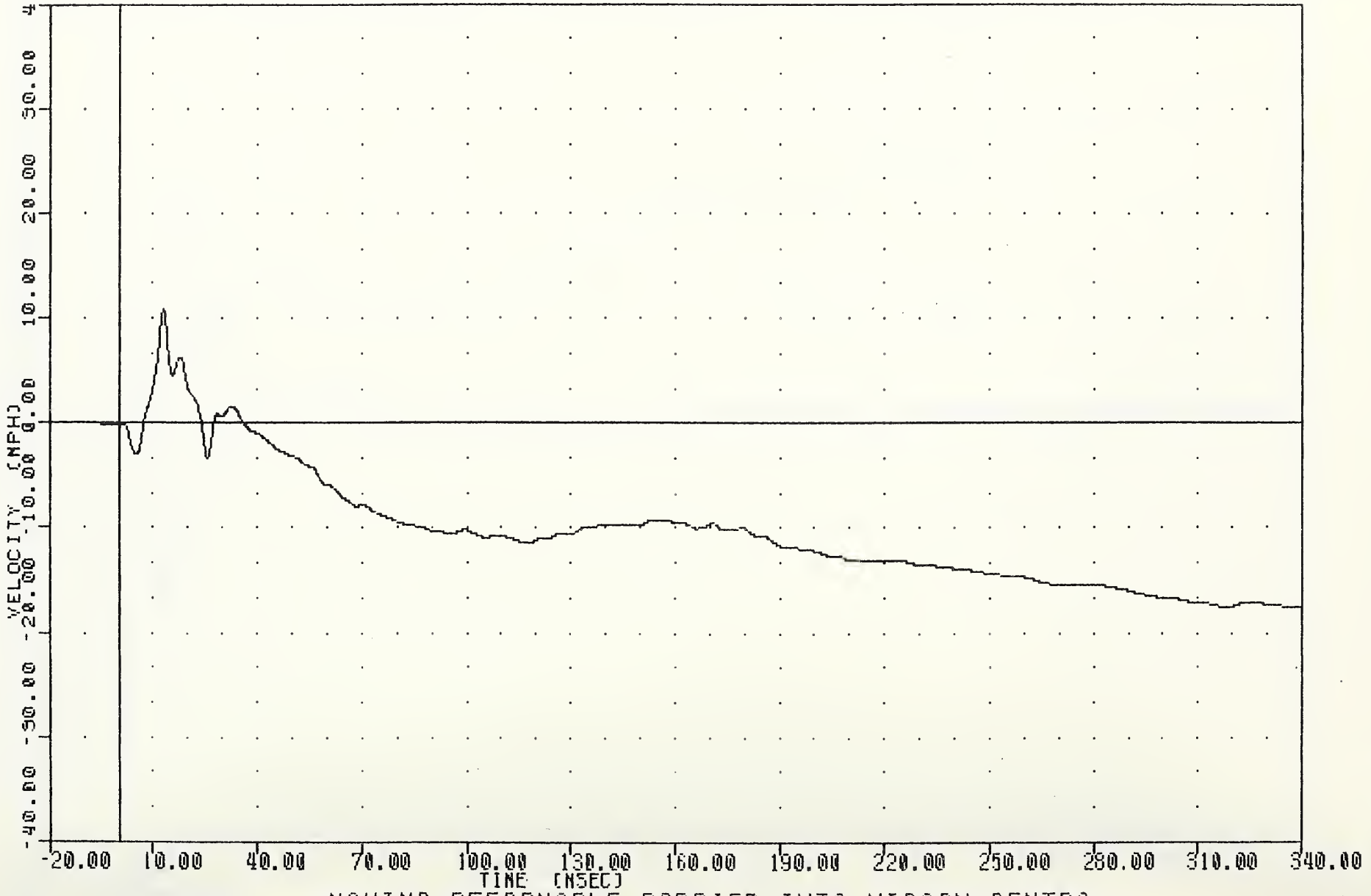


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LFDYG3

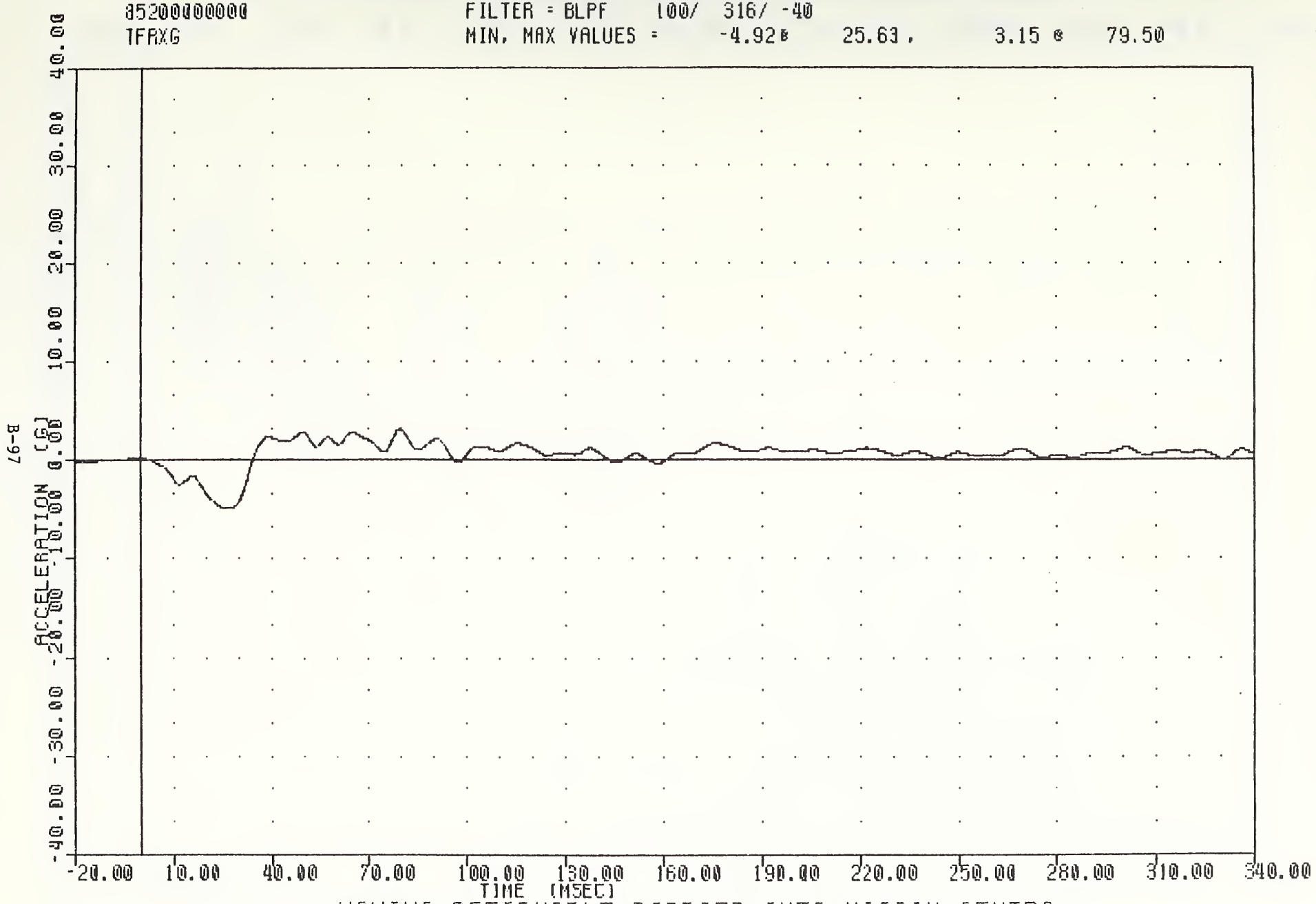


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE LEFT FRONT DOOR (POSITION 10) ACCELERATION Y AXIS

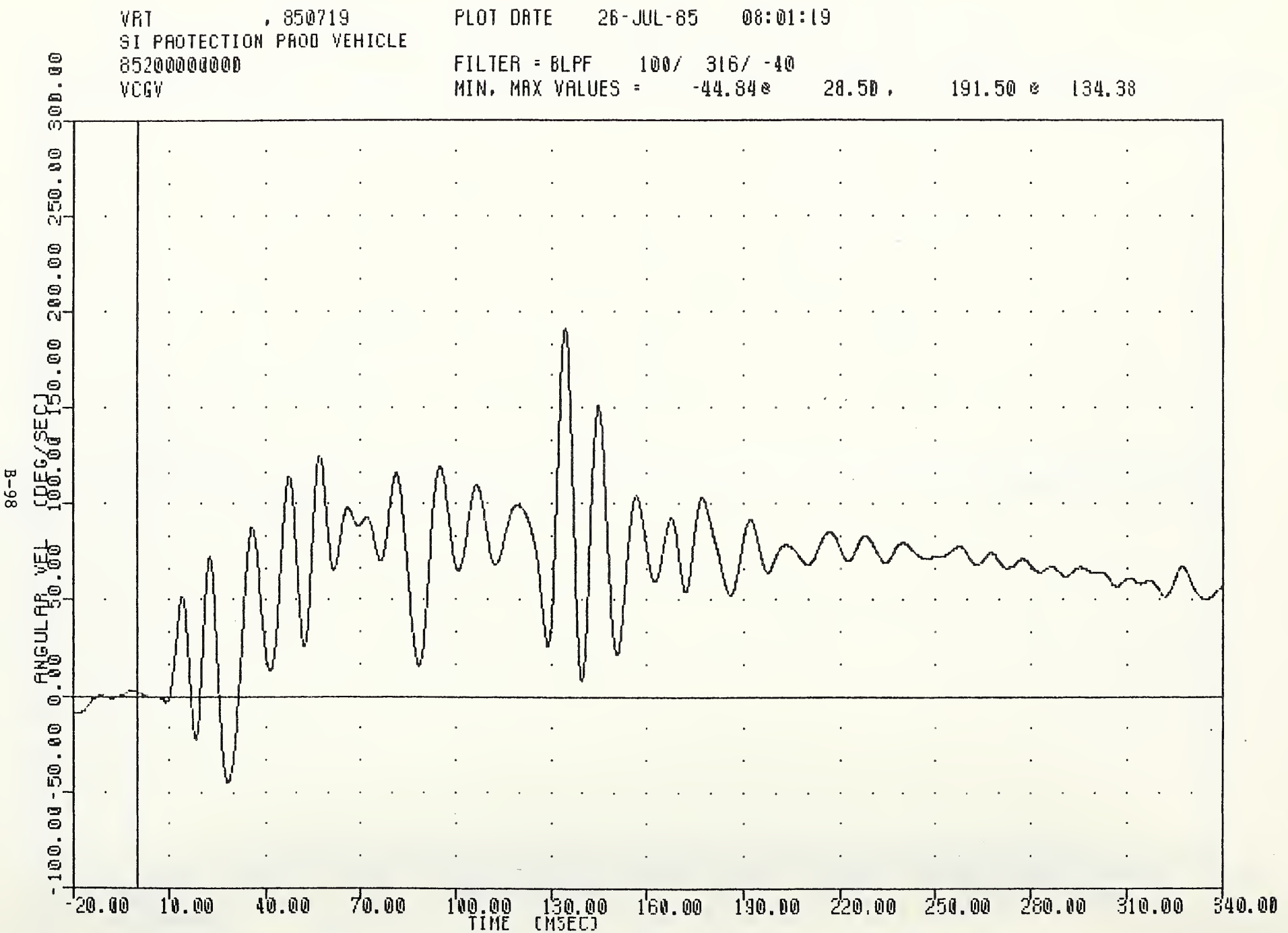
VAT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 300/ 949/ -40
LFDYY4 MIN, MAX VALUES = -17.56 @ 340.00 , 10.85 @ 13.00



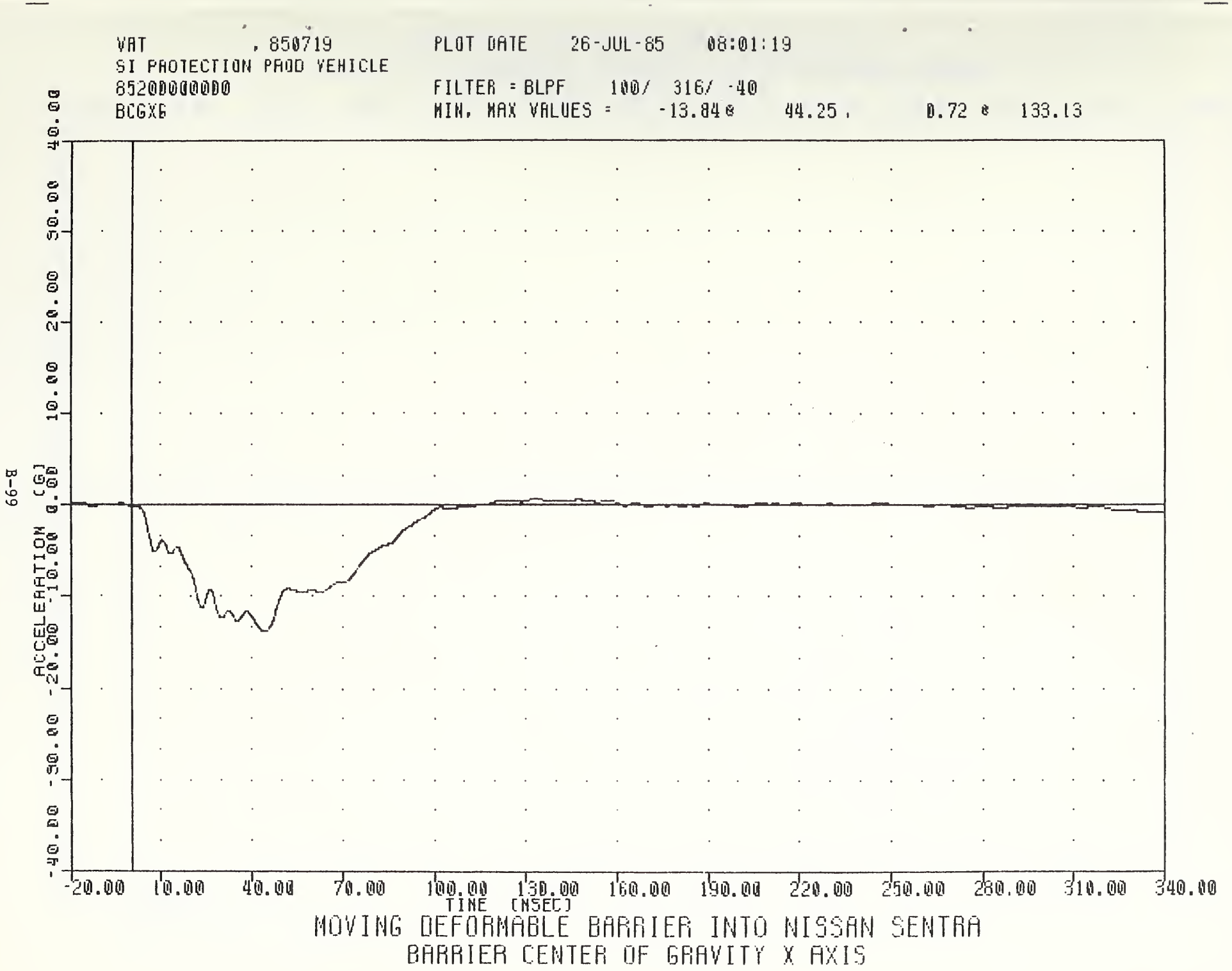
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING LFDYG4



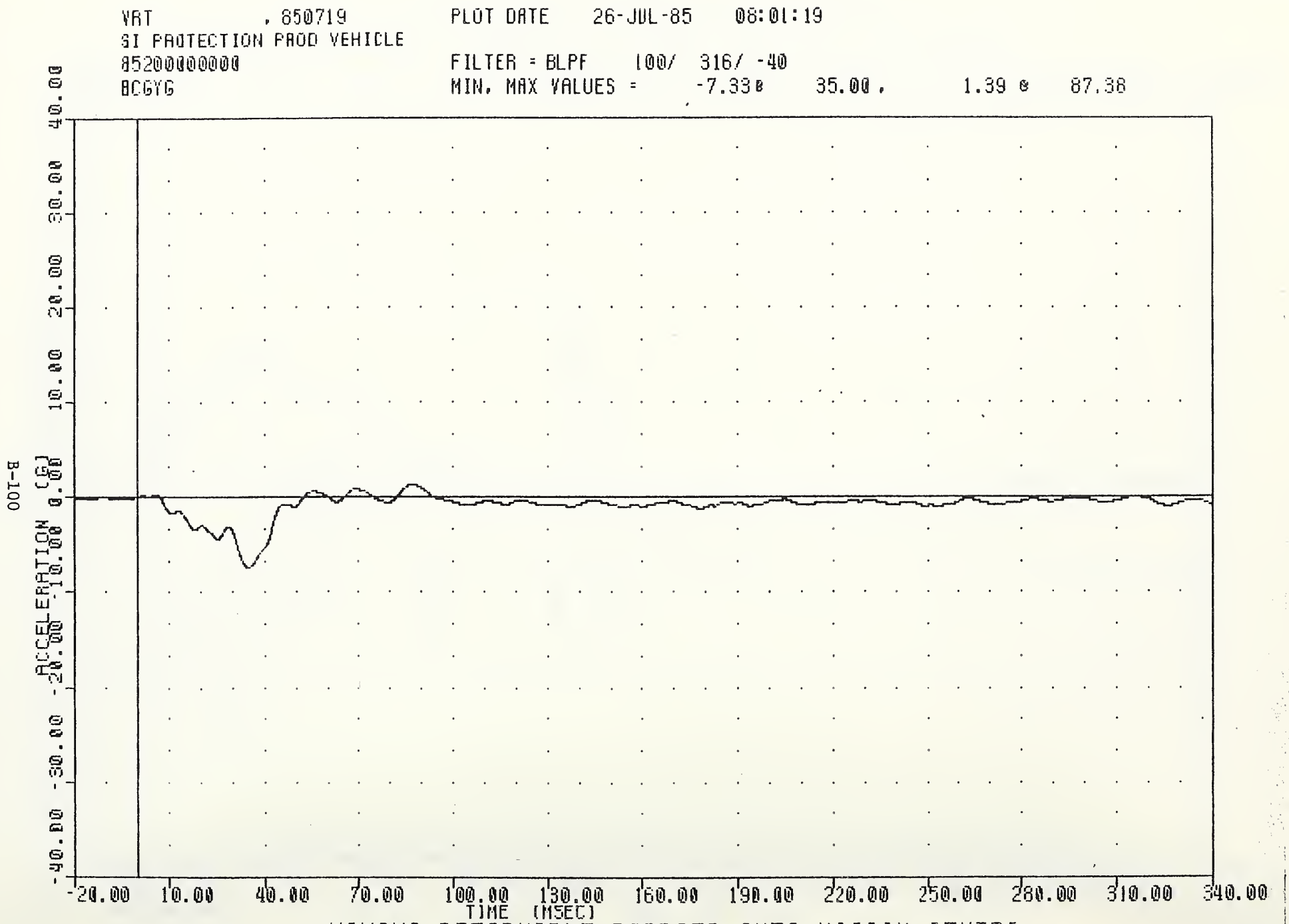
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE TRUNK FLOOR RIGHT ACCELERATION X AXIS



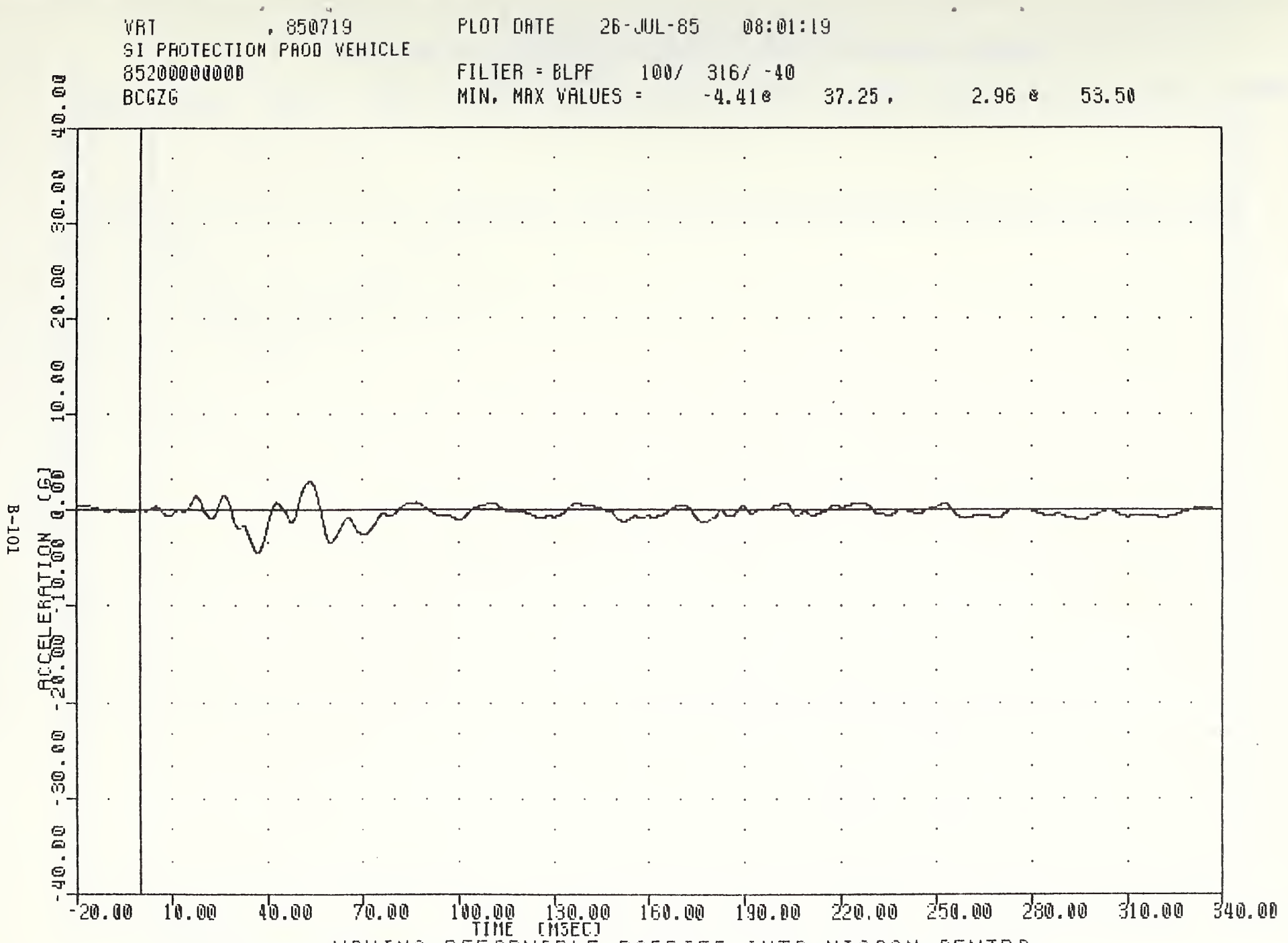
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
VEHICLE YAW RATE DEGREES/SEC



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
BARRIER CENTER OF GRAVITY X AXIS

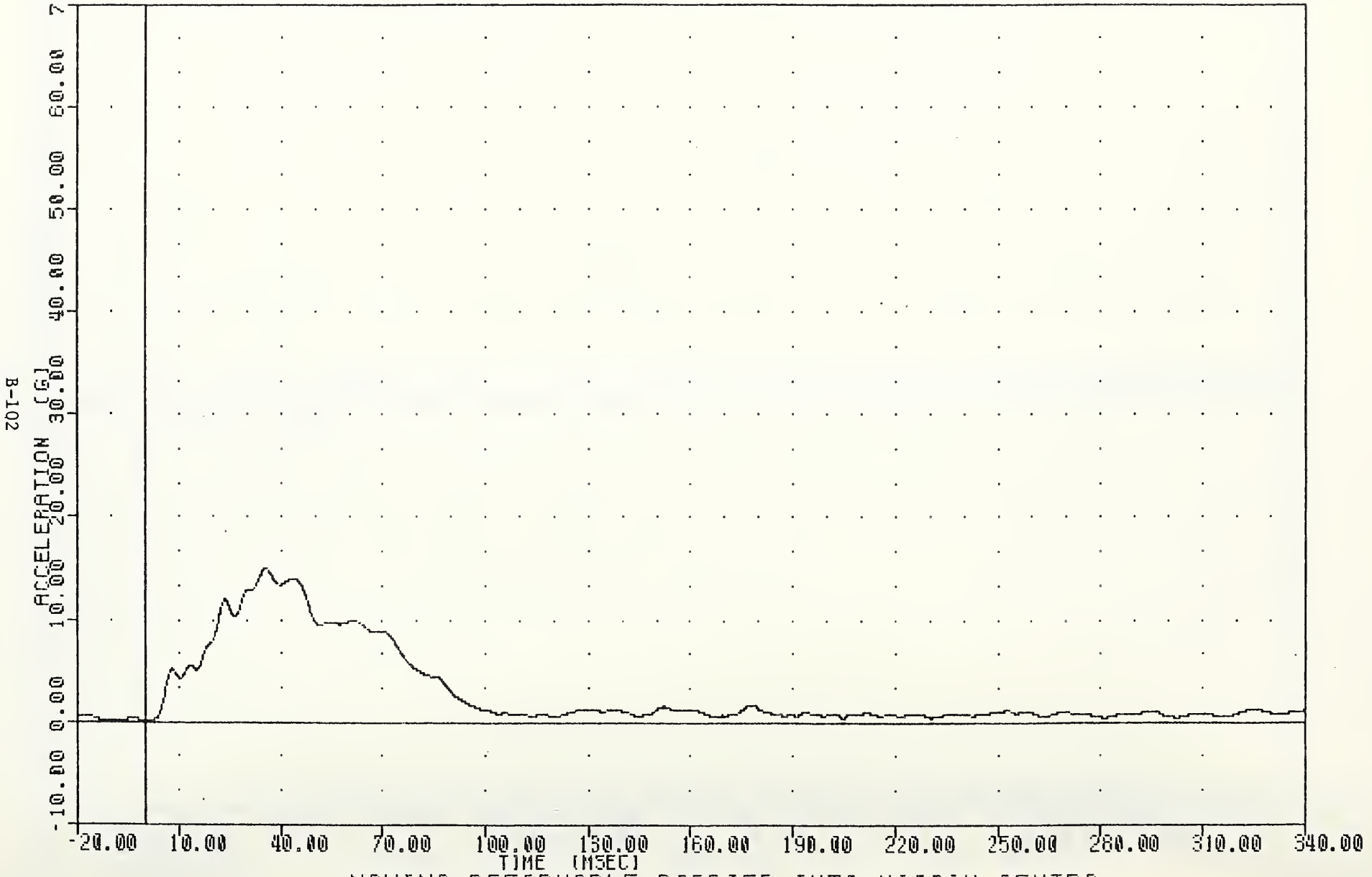


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
BARRIER CENTER OF GRAVITY Y AXIS



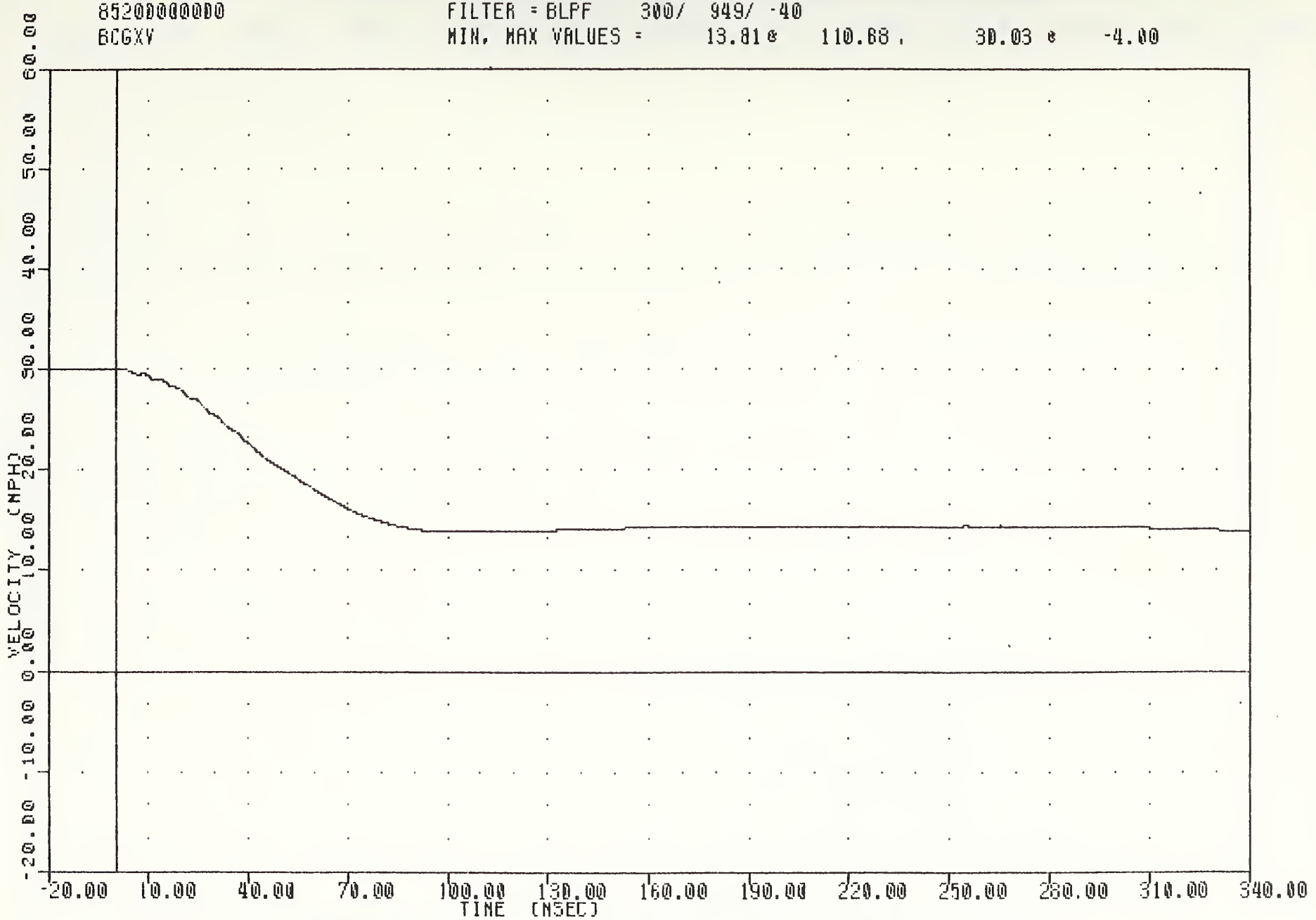
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
BARRIER CENTER OF GRAVITY Z AXIS

VRT , 850719 PLOT DATE 26-JUL-85 08:03:11
SI PROTECTION PROD VEHICLE
852000@0000 FILTER = BLPF 100/ 316/ -40
BCGRG MIN, MAX VALUES = 0.02 @ -1.00 , 15.03 @ 35.50

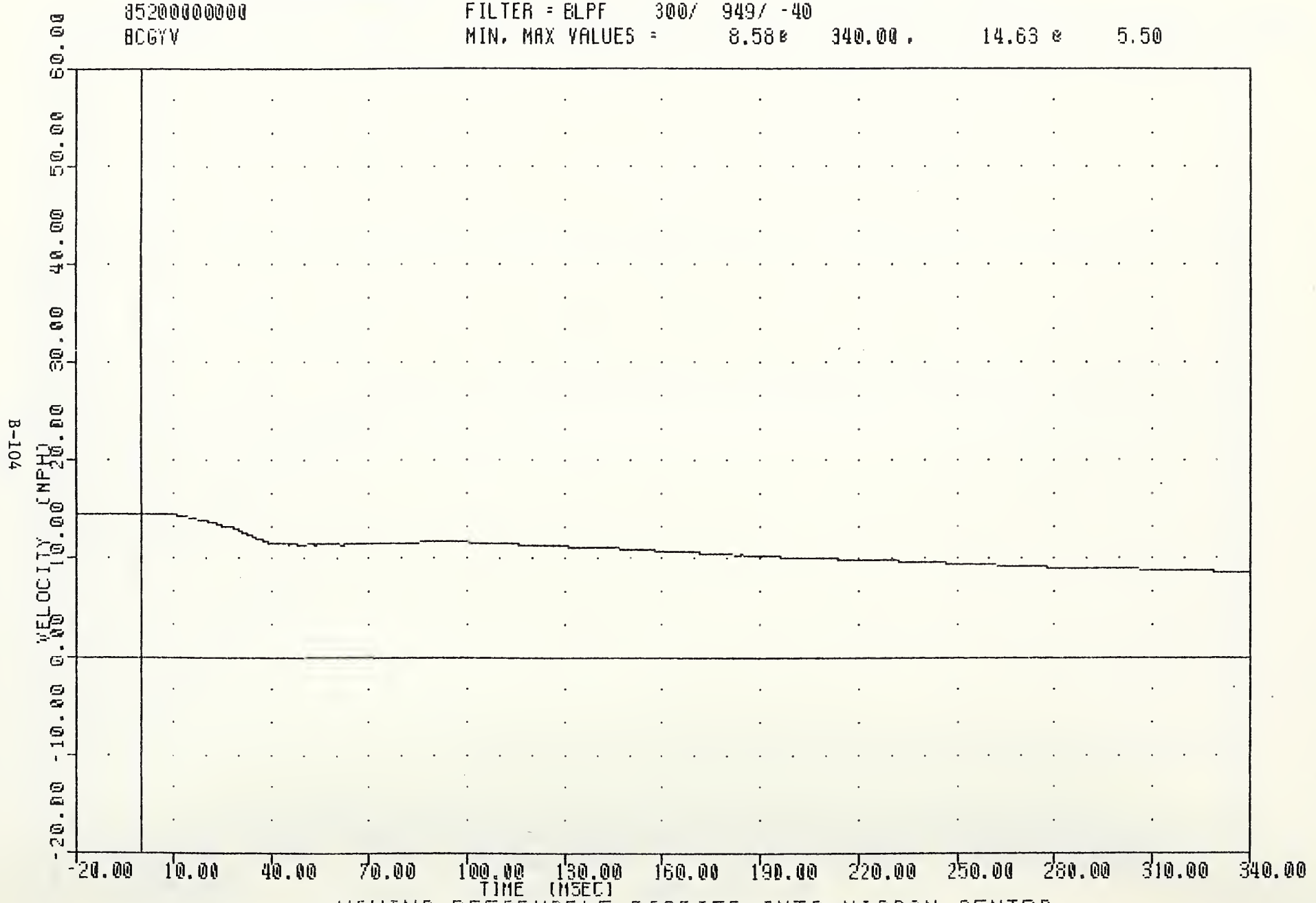


MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
BARRIER CG RESULTANT

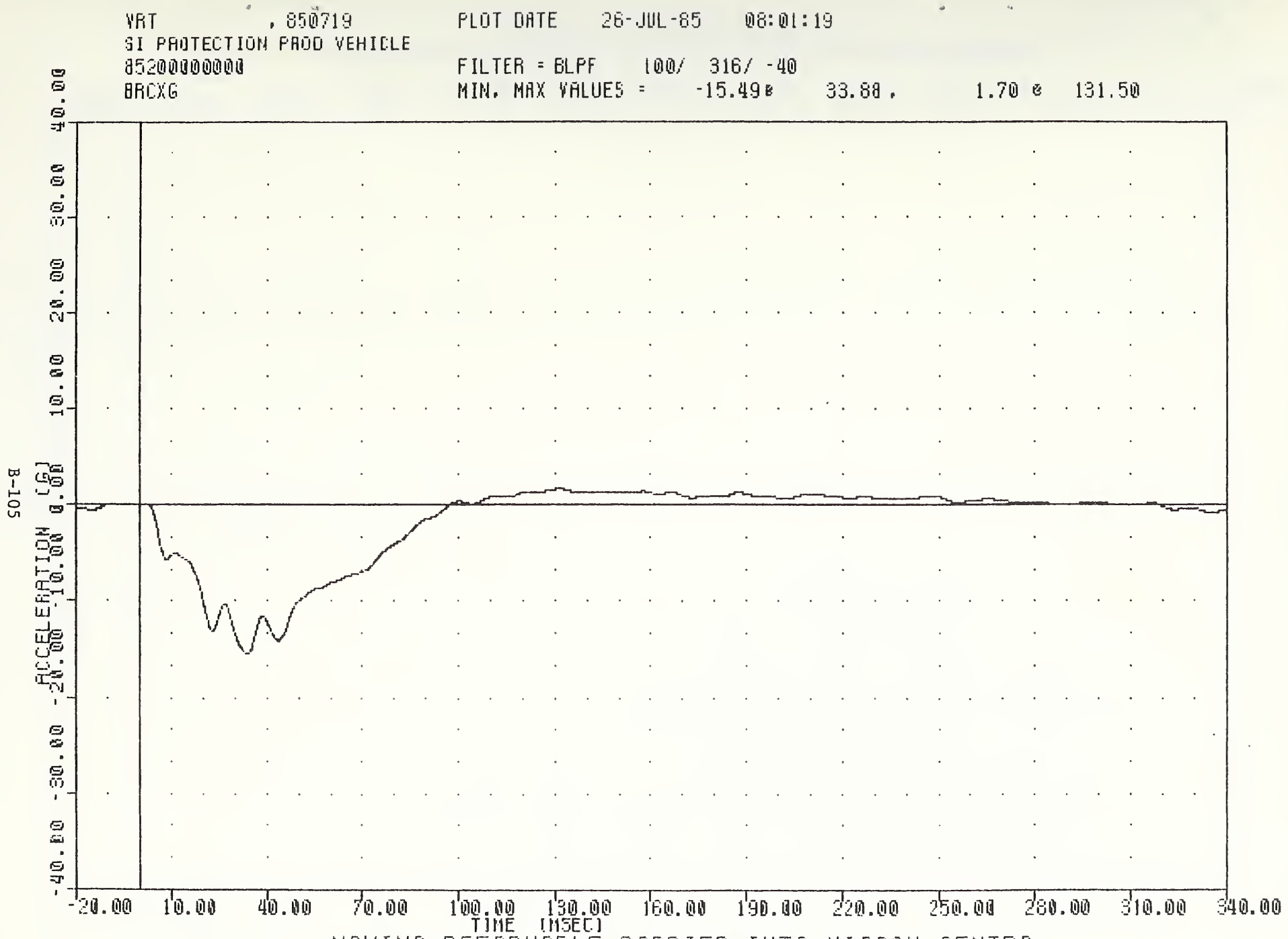
VAT , 850719 PLOT DATE 26-JUL-85 08:01:19
SI PROTECTION PROD VEHICLE
85200000000 FILTER = BLPF 300/ 949/ -40
BCGXV MIN, MAX VALUES = 13.81 @ 110.68 , 30.03 @ -4.00



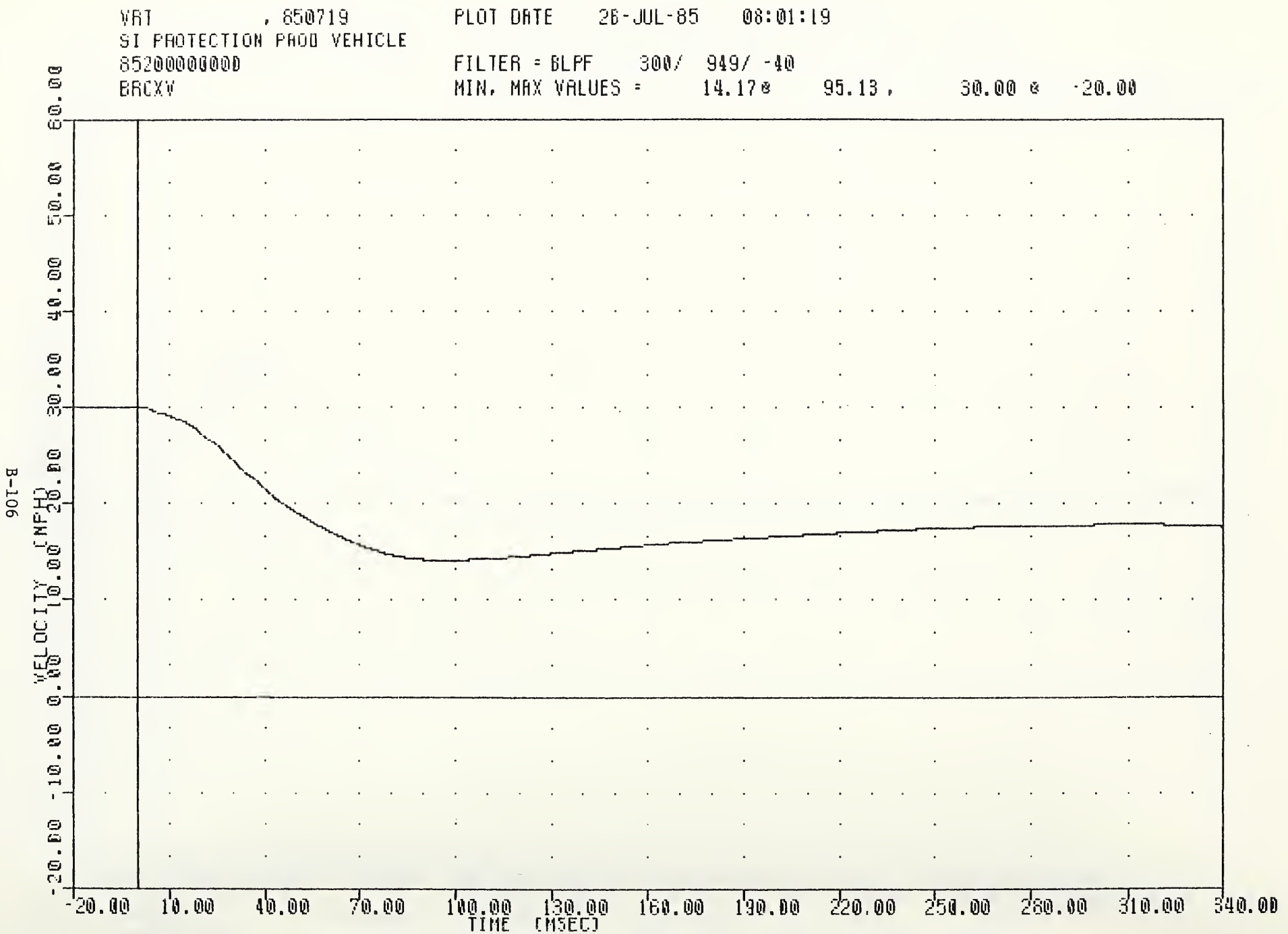
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING BCGXG



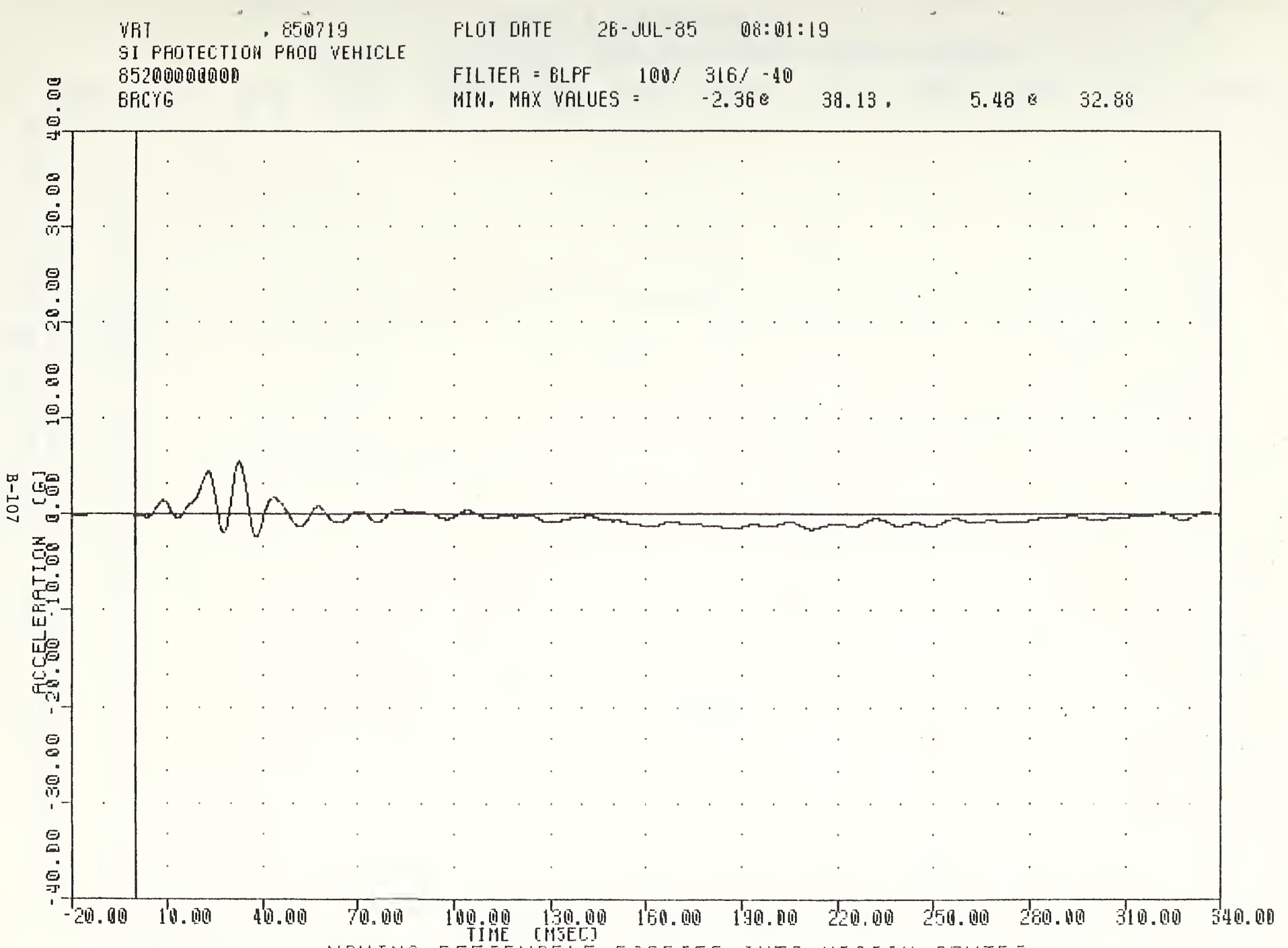
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING BCGYG



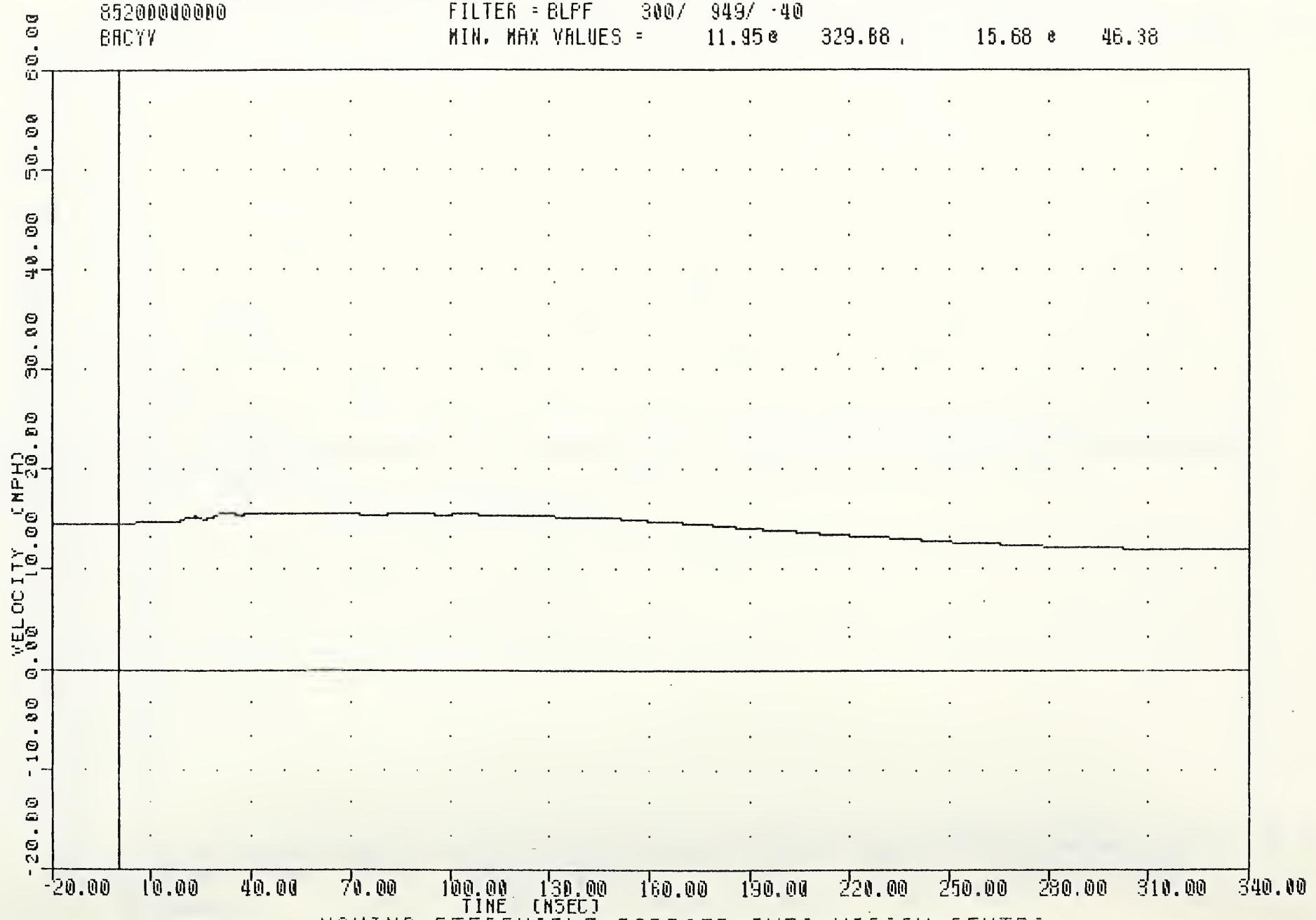
MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
BARRIER REAR CROSSMEMBER ACCELERATION X AXIS



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING BRCXG



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
BARRIER REAR CROSSMEMBER ACCELERATION Y AXIS



MOVING DEFORMABLE BARRIER INTO NISSAN SENTRA
DELTA V USING BACYG

APPENDIX C

DUMMY CERTIFICATION

SIDE IMPACT DUMMY CALIBRATION
DUMMY SERIAL NUMBER 123

TEST/ DATE	CHANNEL	FILTER CLASS	PEAK ACCELERATION (g) SPECIFICATION	TEST RESULT
HEAD 7/11/85	HEAD Y-AXIS	1000	150-175	163.28
THORAX 7/15/85	LEFT UPPER RIB Y-AXIS			
	PRIMARY	180	36-50	42.43
	REDUNDANT	180	36-50	43.79
	UPPER SPINE Y-AXIS			
	PRIMARY	180	16-24.6	23.28
	REDUNDANT	180	16-24.6	23.34
	LOWER SPINE Y-AXIS			
	PRIMARY	180	17.6-26.4	20.14
	REDUNDANT	180	17.6-26.4	19.76
PELVIS 7/11/85	PELVIS Y-AXIS	180	50-65	71.76*

*DUMMY DID NOT MEET SPECIFICATION.

NOTE: The thorax calibration was performed with a new rib-to-spine attachment of stiffer material installed (Goodrich 5 ply transmission belt material of 35 oz. hard duck fabric).

SIDE IMPACT DUMMY CALIBRATION
DUMMY SERIAL NUMBER 120

TEST/ DATE	CHANNEL	FILTER CLASS	PEAK ACCELERATION (g) SPECIFICATION	TEST RESULT
HEAD 7/12/85	HEAD Y-AXIS	1000	150-175	181.66*
THORAX 7/18/85	LEFT UPPER RIB Y-AXIS			
	PRIMARY	180	36-50	36.62
	REDUNDANT	180	36-50	38.58
	UPPER SPINE Y-AXIS			
	PRIMARY	180	16-24.6	23.08
	REDUNDANT	180	16-24.6	22.94
	LOWER SPINE Y-AXIS			
	PRIMARY	180	17.6-26.4	19.95
	REDUNDANT	180	17.6-26.4	19.76
PELVIS 7/11/85	PELVIS Y-AXIS	180	50-65	81.02*

*DUMMY DID NOT MEET SPECIFICATION.

NOTE: This new Side Impact Thorax #120 has all the body parts from SID #U02 except that a new rib-to-spine attachment of stiffer material has been installed (Goodrich 5 ply transmission belt material of 35 oz. hard duck fabric).


Form DOT F 1720.
FORMERLY FORM DOT